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Wages and Hours in American Manufacturing Industries

July, 1914—January, 1922

Research Report Number 52
July, 1922

National Industrial Conference Board

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National Industrial Conference Board

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WAGES AND HOURS IN AMERICAN MANUFACTURING INDUSTRIES

JULY, 1914—JANUARY, 1922

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Foreword

The present report, the fifth wage study by the Conference Board, carries forward to the beginning of this year the comprehensive survey of wages, hours and employment in American manufacturing industries, published as Research Report No. 45. Like the preceding report, the present one sets forth reliable data portraying the movement of hourly and weekly earnings, hours of operation and worker hours as well as changes in employment, from the pre-war period to date, covering in special detail the period since June, 1920, when the industrial depression set in. The report therefore depicts the process of wage readjustment in American manufacturing industries during a year and a half of declining business activity. In this readjustment the relation between wages and the cost of living has been of increasing interest, and in the present report the trend of real wages, which is the purchasing power of money wages, from 1914 onward is shown by a comparison between changes in money wages for all industries and changes in the cost of living for the country as a whole during the period studied.

The broad statistical basis on which the preceding wage report by the Board was established has been continued in the present one and provides a stable foundation for comprehensive and scientific knowledge of wage conditions in American industry.

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Wages and Hours in American Manufacturing Industries

July, 1914—January, 1922

INTRODUCTION

SCOPE OF INVESTIGATION

The purpose of this investigation was to show the trend of wages, hours of work, and employment in the principal manufacturing industries in the United States from July, 1914 up to January, 1922. As a wage investigation is incomplete without an inquiry also into hours and employment, the data contained in this report, therefore, deal not only with wages, but with the average hours of the nominal or standard week, the average week of plant operation, the average week per wage earner, and with fluctuations in employment.

The National Industrial Conference Board has already published four reports dealing with wages, of which the first¹ covered eight industries; the second,² twelve; the third,³ fifteen, and the fourth,⁴ twenty-six.

The present report, also covering twenty-six major industries, closely follows that of Research Report No. 45, in scope, method and material. Wage schedules were sent to the same plants that furnished information in the previous investigation, and over 86% of these establishments furnished data for the present report. In order to make these data strictly comparable with the material presented in Research Report No. 45, a retabulation was made of the previous material, excluding the wage data from the establishments which did not furnish information

¹Research Report No. 20. "Wartime Changes in Wages: September, 1914—March, 1919."

²Research Report No. 31. "Changes in Wages During and Since the War: September, 1914—March, 1920."

³Research Report No. 35. "Wage Changes in Industry: September, 1914—December, 1920."

⁴Research Report No. 45. "Wages and Hours in American Industry: July, 1914—July, 1921."

for the present investigation. In this manner a continuous study has been made from the 1914 base, giving data for the same firms from July, 1914 up to January, 1922.

Some schedules were received in the present investigation from establishments which had not previously furnished information. The data on certain of these schedules were then substituted for comparable data on schedules from the preceding investigation which stopped with June, 1921, and were not continued in the present study. These substitutions were made only where the locality, the size of the establishment, and the average wage rates were practically the same as in the establishment for which the substitution was made. A total of 93 substitutions was made. This small group of substitutions, however, has had little or no effect upon the general trend or averages compiled, though in specific labor groups certain irregularities may be traced to this method. In every case, both in the retabulation and in the substitution method, an earnest effort has been made to make a thoroughly comparable and scientific study showing continuous trends through the seven and one-half year period from July, 1914 up to January, 1922.

The present investigation covered 3,801 plants, of which 3,708 furnished information for the preceding wage report. The largest number of wage earners employed in any one month, during the period covered by the investigation, was 1,090,972 wage earners, at the general peak of industrial activity in June, 1920. Thus over 25% of the total number of wage earners reported by the 1919 Census of Manufactures for the twenty-six industries studied are covered by this report. Schedules were received from many other establishments, but on account of their incompleteness, were not included. In every case, the selection of industries has been determined by the availability of data, and, in general, follows the latest United States Census of Manufactures. The representativeness of the present report is evidenced by the geographical distribution and the variety and size of establishments covered.

PERIOD COVERED BY REPORT

The data cover the period from July, 1914 up to January, 1922 and present an authentic record of wage changes during this time, gathered from comparable sources, as described

above. July, 1914 was selected as the base of the study, because this date is the last period unaffected by the outbreak of the World War, and, in general, reflects American manufacturing industries under fairly normal conditions. After July, 1914, the next period covered by this report is June, 1920. No attempt has been made to study the character of the rise from the base in 1914 to the general peak in the middle of 1920. During this time, industry was stimulated to super-normal production by the World War. It was felt that to study movements in wages and hours in this period would only bring out facts already well known. The principal interest today is in the trends from the pre-war base to the present, and hence this report shows the movement of wages, hours of work, and employment, month by month, from June, 1920 up to January, 1922, related to the common base of July, 1914.

About 75% of the plants included in this report gave complete data from July, 1914 up to January, 1922. The remainder could not furnish 1914 data, but compiled returns for the period 1920-22. This group contained many firms in existence in 1914, but whose payroll records from 1914 to 1922 were unobtainable, and included also firms that had started in business since 1914.

A statistical problem, therefore, was involved in relating the data from the predominant 1914-22 group to the smaller 1920-22 group of firms. In regard to weekly and hourly earnings, the average week per wage earner, the average week of plant operation and the nominal week, careful tabulation showed little divergence between the data for these two groups, covering the period from June, 1920 up to January, 1922. It seemed justifiable, therefore, to tie these two groups together for 1920-22. The 1914 base supplied by the larger group was then taken as both the actual and index base for the entire group. Separate treatment, however, was given the two groups in regard to data covering employment.

As three-quarters of the whole data cover the entire period, a predominant base is carried through the entire investigation, which is sufficient to outweigh any errors that might accrue by tying in a smaller group at June, 1920. In other words, the statistical method pursued does not involve changing the base, or a greater part of the base, between different periods.

CLASSIFICATION OF WAGE EARNERS

The investigation did not include executives, office and sales force, foremen or assistants, clerical workers or others paid on a salary basis.

The classification of wage data closely follows that pursued by the Conference Board in previous wage studies. The wage earners were first divided by sex, and then into the occupational classifications of male "common or unskilled" labor, and male "all other" labor. "Common or unskilled" labor is defined as the general group that performs the cruder "muscle" tasks for which no previous training is required. "All other" labor is composed of the remainder of "semi-skilled and skilled" labor of all kinds, which has some degree of training. All kinds of workers are contained in the latter classification, from those who rank just above "common" laborers to the most highly skilled wage earners. The dividing line between these two groups is difficult to determine, but this classification follows the general understanding as to the distinction implied in these terms. In the charts and tables contained in this report, the word "skilled" refers to the male workers in the "all other" group.

TREATMENT OF WAGE DATA

The report deals with "money wages," which are to be distinguished from "real wages," or the purchasing power of money wages. The word "earnings," unless otherwise stated, means the total money wages derived from labor services.

Hourly and weekly wages for each of the three classes, in each industry, are included in this report. Hourly earnings are obtained by dividing the total weekly payroll in money, for each group of wage earners, by the total actual man hours worked by each group; weekly earnings are obtained by dividing the total weekly payroll for each group of wage earners by the number of persons in each group. The tables and charts in this report show wage data in index numbers as well as in actual dollars and cents.

TREATMENT OF EMPLOYMENT DATA

As previously mentioned, while the 1914-22 and the 1920-22 groups of establishments were consolidated from 1920 onward

in regard to earnings and hours, such a procedure in regard to employment data would have been statistically incorrect. Here the problem deals with actual numbers rather than trends, and to use the base of the smaller group as the base for the whole group would lead to wrong conclusions. Hence, employment data for the total and the three classified groups individually are shown for the 1920-21 period only. In addition, a composite line, showing the total employment for the firms which furnished complete information from 1914-22, was also placed on the employment charts.

TREATMENT OF DATA ON HOURS OF WORK

As in the last report, three kinds of data regarding hours of work have been compiled: (1) the average week per wage earner, (2) the average week of plant operation, (3) the nominal or standard work week.

The *average week per wage earner* is the average man hours worked per week, and was obtained by dividing the total man hours of each group by the total number of workers employed in that group. In consolidating this information from individual plants into data for an industry, the number of wage earners in each plant was taken into account, thereby securing a weighted average for each industry.

The *average week of plant operation* is the average hours of operation of all the plants covered in a specific industry, and was obtained by multiplying the total number of wage earners in each plant by hours of operation in that plant, and then dividing the sum of these products by the total number of wage earners for all the establishments covered in the industry. Properly weighted hours of plant operation for the industry were thus obtained.

The *nominal or standard work week* in a plant is the number of hours the plant is supposed normally to operate, and was obtained by multiplying the total number of wage earners in each plant by the hours of the regular or nominal work week in that plant, and then dividing the sum of these results by the total number of wage earners for all the establishments covered in the industry. Properly weighted hours of the nominal week for the industry were thus obtained.

Since the actual week per wage earner, week of plant operation and the nominal week have each been *weighted in relation to the number of wage earners*, direct comparison can be made between these three averages. The comparison between the average hours per individual wage earner and the actual week of plant operation shows the divergence between the hours all the wage earners have actually worked and the hours the plant has actually operated. It measures the inefficiency of plant operation due to any or all causes. In addition, the comparison between the actual week of plant operation and the nominal week reflects broadly the economic condition of the industry.

In determining the actual week of plant operation, full account was taken of the time lost due to local and legal holidays, and to local and temporary plant disabilities. Losses due to these causes are not to be attributed to economic and industrial conditions, but to temporary and local circumstances.

To compute average weekly hours of work and earnings on the basis of a week that has been reduced through a cause not related to conditions governing working time in the industry, would result in lowering the average so that it would not be representative of other weeks in the month. On this account the wage schedules covered representative weeks which were, as far as possible, unaffected by legal and local holidays. Where such holidays occurred, the time lost was added to the hours of actual plant operation and to the average actual week per wage earner, and the normal week of hours and earnings was thus established.

Note: Throughout the text of this study, the method has been uniformly employed of giving first the data for the base period, July, 1914, then the high point, which varies as to date, and finally the change to the end of the year 1921.

SUMMARY AND GENERAL CONCLUSIONS

The period covered in this investigation, from July, 1914, up to the beginning of 1922, was marked by great changes in the principal manufacturing industries of the United States. In July, 1914, manufacturing industries of the country were operating on a fairly normal scale under peace-time conditions. The next years witnessed a general industrial expansion in response to the demands of the World War. The peak of this expansion was reached by the spring of 1920 and the period since that time has been characterized by a widespread industrial depression.

At the beginning of 1922 the process of deflation in many industries had been practically completed, and more permanent levels of production had been reached. The year 1921 was a time of general readjustment, and the tendency to more or less stable levels of wages and hours in the principal manufacturing industries evidenced in that period is reflected in this report.

The general results of this investigation are discussed under four headings:

- A. Composite data for all industries;
- B. Comparison of data between industries;
- C. Comparison of hourly and weekly earnings with the cost of living;
- D. General conclusions.

A. Composite Data For All Industries

In compiling the composite material for the twenty-six industrial sections in this report, data from gas, and electric light and power companies were not included, as conditions in these public utilities are not quite comparable with those in manufacturing industries. In public utilities, wages and hours are usually determined by local or state legislation, and the necessity for continuous operation makes a study of working hours of little importance.

Of the 44 iron and steel plants from which returns were received, data from eight plants have not been included in the composite returns, because the payroll returns of these

plants did not give a record of hours. Thus, only 3,520 plants have been included in the composite data in this section, although the entire investigation covered 3,801 plants. The total number of wage earners covered in this composite section was 1,068,519 in June, 1920. In discussing the general results relating specifically to employment, wages and hours, the number of wage earners covered is designated in each case.

WAGES

(a) Hourly earnings: The compilation of data on hourly earnings includes returns from all industries except gas and electric light plants and eight iron and steel plants already mentioned. The composite hourly earnings for all industries, therefore, include data from 3,520 plants.

In July, 1914, the average hourly earnings of all wage earners were \$.243. By September, 1920, they had risen 156% to \$.621. The decline from the latter period to the beginning of 1922 amounted to 22.4%, leaving the average hourly earnings at the level of \$.482 or 98% above the July, 1914 level. The actual decrease in average hourly earnings for all wage earners from the peak in September, 1920 up to January, 1922 amounted to \$.139.

The trend of average hourly earnings shows a well-sustained level through November, 1920. In December, 1920, a slight decline occurred, followed by severe reductions at the beginning of 1921. The last six months of 1921 saw continued, but more gradual, declines.

In July, 1914, the average hourly earnings of *all male wage earners* were \$.26. By September, 1920, they had increased 152% to \$.656, and declined 21.8% to \$.513 from the latter period up to the beginning of 1922. The net increase over July, 1914, at the beginning of 1922, was 97%.

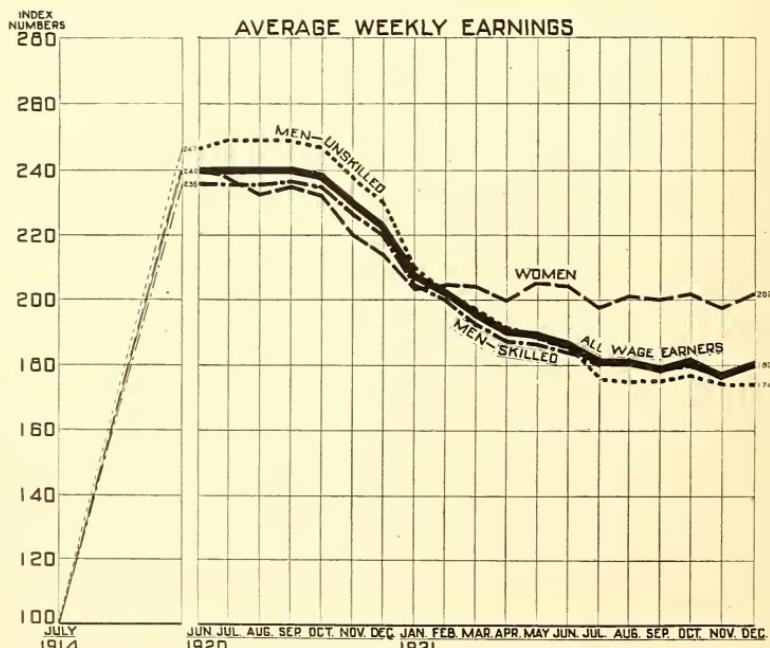
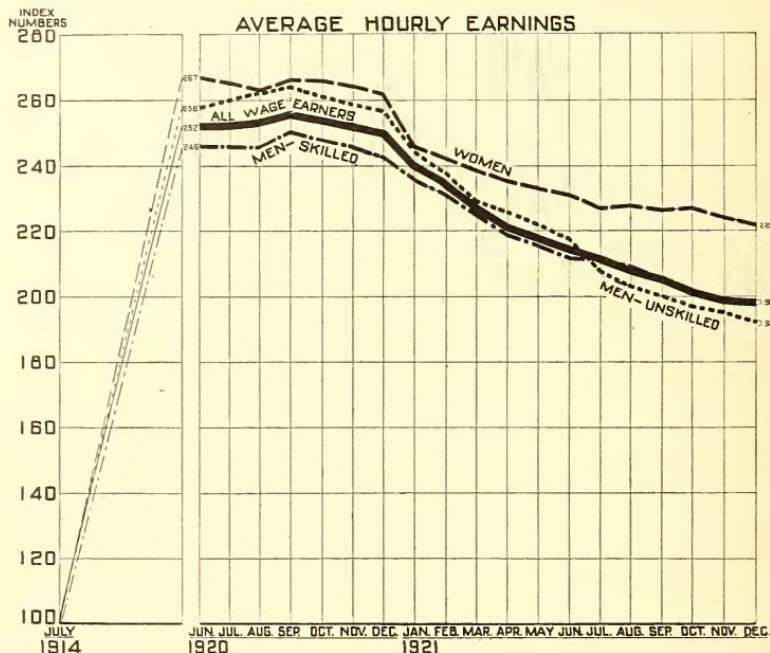
In July, 1914, the average hourly earnings of *all male common labor* were \$.207. By September, 1920, they had increased 164% to \$.546. The decline from the latter period up to the beginning of 1922 amounted to 27.1%, at which time the average hourly earnings were \$.398. In July, 1914, the average hourly earnings of *all male skilled labor* were \$.280. By September, 1920, they had increased 150% to \$.700. The decline from the latter period up to the beginning of 1922, was 20.7% to \$.555. In July, 1914, the average hourly earnings

Table A: Average Hourly Earnings, All Industries, Composite and Classified Groups of Labor

Period	Male Unskilled				Male Skilled				Women				
	All Wage Earners		Male Wage Earners		Number Wage Earners		Av. Hourly Earnings		Number Wage Earners		Av. Hourly Earnings		
	Av. Hourly Earnings Index No.	Actual	Av. Hourly Earnings Index No.	Actual	Number Wage Earners	Actual	Av. Hourly Earnings Index No.	Actual	Number Wage Earners	Actual	Av. Hourly Earnings Index No.	Actual	
July 1914	\$.243	100	\$.260	100	130,576	\$.207	100	352,675	\$.280	100	99,493	\$.156	
1920	June	.612	.252	.645	248	245,867	.534	258	654,063	.689	246	168,589	.417
	July	.612	.252	.646	248	247,375	.539	260	642,424	.689	246	164,783	.414
	Aug.	.614	.253	.647	249	245,250	.542	262	621,902	.690	246	158,756	.411
	Sept.	.621	.256	.656	252	237,590	.546	264	601,721	.700	250	155,474	.415
	Oct.	.617	.254	.650	250	226,379	.541	261	578,866	.694	248	148,117	.415
	Nov.	.613	.252	.645	248	207,033	.536	259	549,721	.688	246	137,834	.412
	Dec.	.608	.250	.638	245	189,479	.531	257	516,929	.681	243	128,662	.408
	Jan.	.584	.240	.619	238	169,197	.505	244	474,594	.660	236	120,424	.384
	Feb.	.569	.234	.606	233	165,037	.493	238	462,190	.647	231	123,577	.377
	March	.552	.227	.587	226	162,551	.475	229	451,252	.629	225	125,383	.373
	April	.538	.221	.574	221	156,749	.467	226	437,793	.613	219	125,901	.366
	May	.530	.218	.567	218	150,157	.459	222	421,131	.606	216	128,163	.364
	June	.520	.214	.557	214	144,627	.451	218	406,566	.595	212	125,593	.361
1921	July*	.512	.211	.549	211	134,206	.430	207	389,983	.591	211	123,764	.354
	Aug.	.506	.208	.542	208	134,832	.421	203	394,676	.584	209	126,426	.355
	Sept.	.497	.205	.532	205	137,220	.415	200	397,107	.574	205	129,764	.352
	Oct.	.489	.201	.522	201	140,706	.408	197	397,736	.564	201	132,969	.354
	Nov.	.484	.199	.516	198	142,678	.404	195	406,914	.557	199	132,940	.349
	Dec.	.482	.198	.513	197	143,883	.398	192	409,251	.555	198	133,310	.347

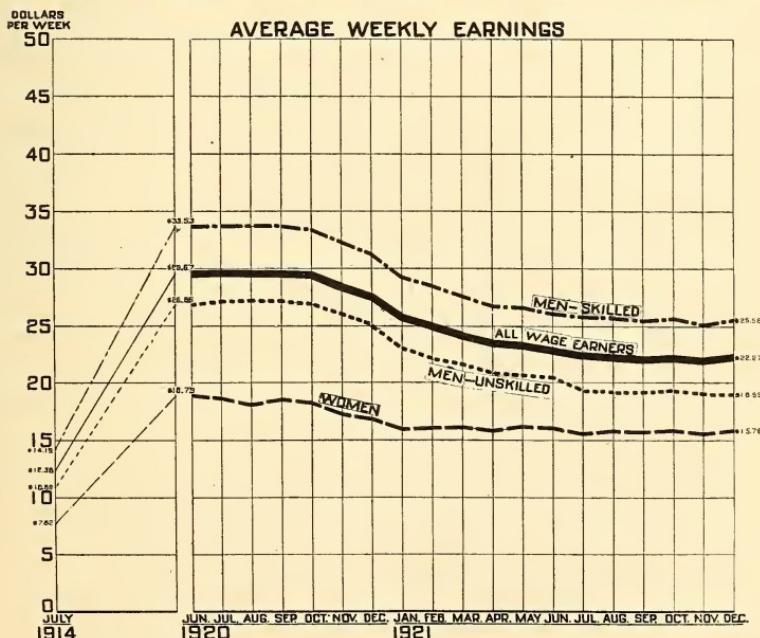
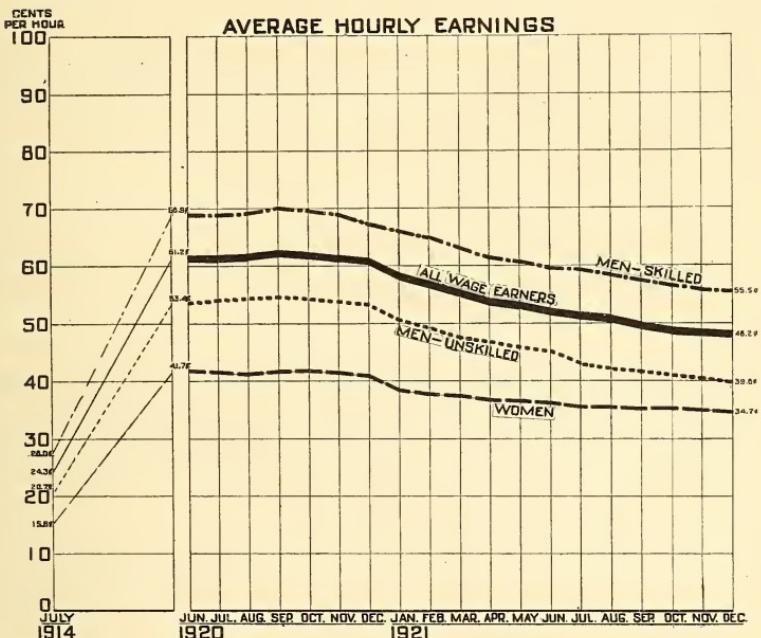
*See Introduction, p. 2.

Chart A: Index Numbers, Hourly and Weekly Earnings, All Industries, All Wage Earners and Classified Groups, July, 1914—January, 1922



(National Industrial Conference Board)

Chart B: Actual Average Hourly and Weekly Earnings, All Industries, by Groups and for All Wage Earners, July, 1914 —January, 1922



(National Industrial Conference Board)

of women were \$156. By June, 1920, they had risen 167% to \$417. The decline from this peak up to January, 1922 amounted to 16.8%, the average earnings at the latter period being \$347. By January, 1922, therefore, the average hourly earnings of the three groups were respectively 92%, 98% and 122% above the July, 1914 levels. It will be noted that the net increase for women is far above the net increase received by men.

The actual decline in money in average hourly earnings from the various peaks in the three groups up to January, 1922, were as follows: *male common labor*, \$148; *male skilled labor*, \$145; *women*, \$07.

(b) Weekly earnings: Composite weekly earnings of all wage earners include returns from all industries except the gas and electric light plants and certain iron and steel companies already mentioned, and cover the same number of plants as does the composite of hourly earnings.

In July, 1914, the composite weekly earnings of all wage earners were \$12.36. By July, 1920, they had risen 140% to \$29.69. The decline from this period up to January, 1922 was 25%, the average weekly earnings at the latter period being \$22.27 or 80% above the July, 1914 level. Weekly earnings were well sustained through October, 1920. A decline began in November and December, 1920, followed by sharp reductions in the first months of 1921. This reduction was chiefly due to a great decline in working hours. During the last six months of 1921 weekly earnings were well sustained, although hourly earnings steadily declined. This was due to an increase in working hours. The result is that the average weekly pay of *all wage earners* has been fairly well sustained, although there has been a continual reduction in hourly rates. The actual money decrease in weekly earnings from the peak in July, 1920 up to January, 1922 amounted to \$7.42.

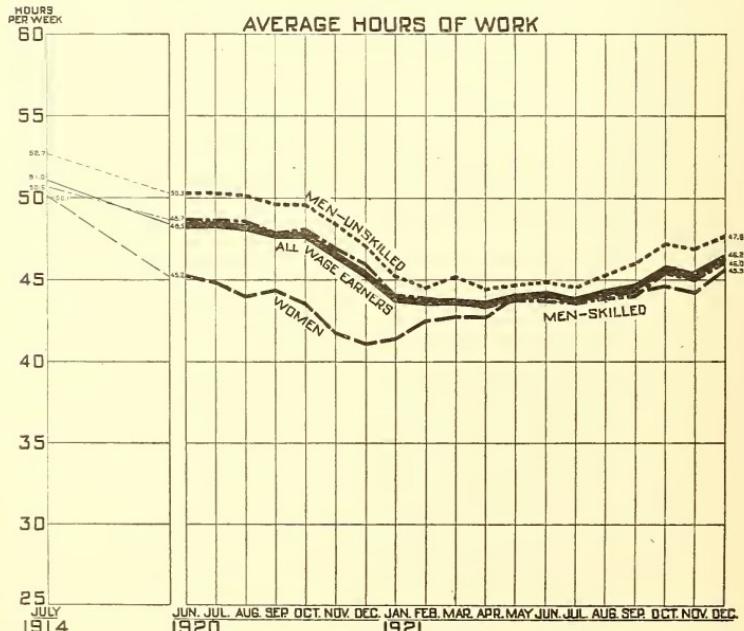
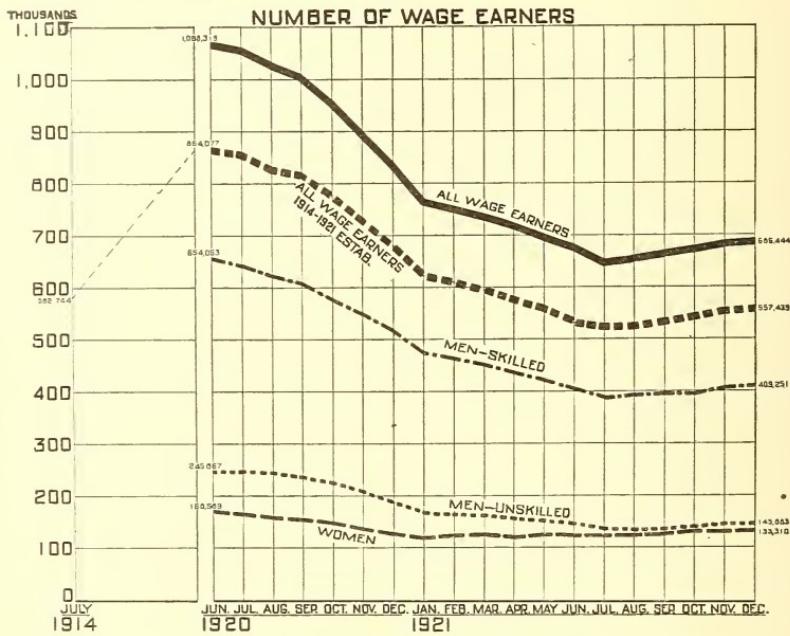
The average weekly earnings of *all male wage earners* in July, 1914 were \$13.30. By July, 1920 they had risen 139% to \$31.75. They then declined 24.9% to \$23.84 from the latter period to January, 1922, leaving a net increase of 79% over the July, 1914 level. The declines from the peak and the net increases over July, 1914 have been practically the same for the

Table B: Average Weekly Earnings, All Industries, Composite and Classified Groups of Labor

Period	All Wage Earners				Male Unskilled				Male Skilled				Women			
	Av. Weekly Earnings															
	Actual	Index No.														
July.....	\$12.36	100	\$13.30	100	130,576	\$10.89	100	352,675	\$14.19	100	99,493	\$7.82	100			
1914																
1920																
June.....	29.67	240	31.71	238	245,867	26.86	247	654,063	33.53	236	165,389	18.79	240			
July.....	29.69	240	31.75	239	247,375	27.10	249	642,424	33.54	236	164,783	18.57	237			
Aug.....	29.63	240	31.73	239	245,250	27.14	249	621,902	33.54	236	158,756	18.12	232			
Sept.....	29.68	240	31.75	239	237,590	27.10	249	607,721	33.56	237	155,474	18.41	235			
Oct.....	29.45	238	31.54	237	226,379	26.86	247	577,866	33.37	235	148,117	18.12	232			
Nov.....	28.47	230	30.93	230	207,033	25.95	238	549,721	32.25	227	137,834	17.19	220			
Dec.....	27.60	223	29.57	222	189,479	25.00	230	516,929	31.25	220	128,662	16.76	214			
13																
1921																
Jan.....	25.67	208	27.50	207	169,197	22.87	210	474,594	29.15	205	120,424	15.90	203			
Feb.....	24.95	202	26.71	201	165,037	22.01	202	462,190	28.39	200	123,577	15.99	204			
March....	24.17	196	25.84	194	162,551	21.49	197	451,252	27.43	193	125,383	15.98	204			
April....	23.44	190	25.09	189	156,749	20.78	191	437,793	26.63	188	125,901	15.67	200			
May.....	23.31	189	24.95	188	150,157	20.56	189	421,131	26.51	187	128,163	16.03	205			
June.....	22.93	186	24.53	184	144,627	20.25	186	406,566	26.05	184	125,593	15.94	204			
July*	22.43	181	24.06	181	134,206	19.18	176	389,983	25.74	181	123,764	15.50	198			
Aug.....	22.38	181	23.98	180	134,852	19.10	175	394,676	25.65	181	126,426	15.70	201			
Sept.....	22.15	179	23.73	178	137,220	19.06	175	397,107	25.35	179	129,764	15.62	200			
Oct.....	22.33	181	23.94	180	140,706	19.25	177	397,736	25.60	180	132,969	15.82	202			
Nov.....	21.92	177	23.48	177	142,627	18.96	174	406,914	25.07	177	132,940	15.47	198			
Dec.....	22.27	180	23.84	179	143,883	18.95	174	409,251	25.56	180	133,310	15.76	202			

*See Introduction, p. 2.

Chart C: Number of Wage Earners Employed and Average Hours of Work, All Industries, by Groups and for All Wage Earners, July, 1914—January, 1922



(National Industrial Conference Board)

composite group of all wage earners, which includes women, and for all male wage earners.

In July, 1914, the average weekly earnings of *male unskilled labor* were \$10.89. By August, 1920 they had risen 149% to \$27.14. The decline from this period to January, 1922 amounted to 30.2%, the average weekly earnings at the latter period being \$18.95. In July, 1914, the average weekly earnings of *male skilled labor* were \$14.19. By July and August, 1920, they had increased 136% to \$33.54, declining 23.8% to \$25.56 from the latter period to the beginning of 1922. In July, 1914, the average weekly earnings of *women* were \$7.82. In June, 1920, they had increased 140% to \$18.79. The decline from this peak up to January, 1922 was 16.1%, the average weekly earnings at the latter period being \$15.76. By January, 1922, therefore, the percentages of increase above July, 1914 levels for the three groups were respectively 74%, 80% and 102%. It will be noted that the net percentage increase for *male common labor* was considerably below that for *male skilled labor*, while the increase for *women* was considerably above that received by male wage earners.

The actual money decreases in weekly earnings in the three groups, from their various peaks up to January, 1922 were as follows: *male common labor*, \$8.19; *male skilled labor*, \$7.98; *women*, \$3.03.

The decline in weekly earnings has been more extensive than in hourly earnings, due to part-time operations, plant shutdowns, and part-time employment. Wage trends indicate well sustained levels in most basic industries during 1920 with sharp reductions at the beginning of 1921. The last half of 1921 was dominated by continued declines in hourly earnings, with more or less sustained levels in weekly earnings. Wage reductions have affected women less than men, which may be accounted for by the progress which women made during the war through legislation and other means in bringing their wages into closer equality with men.

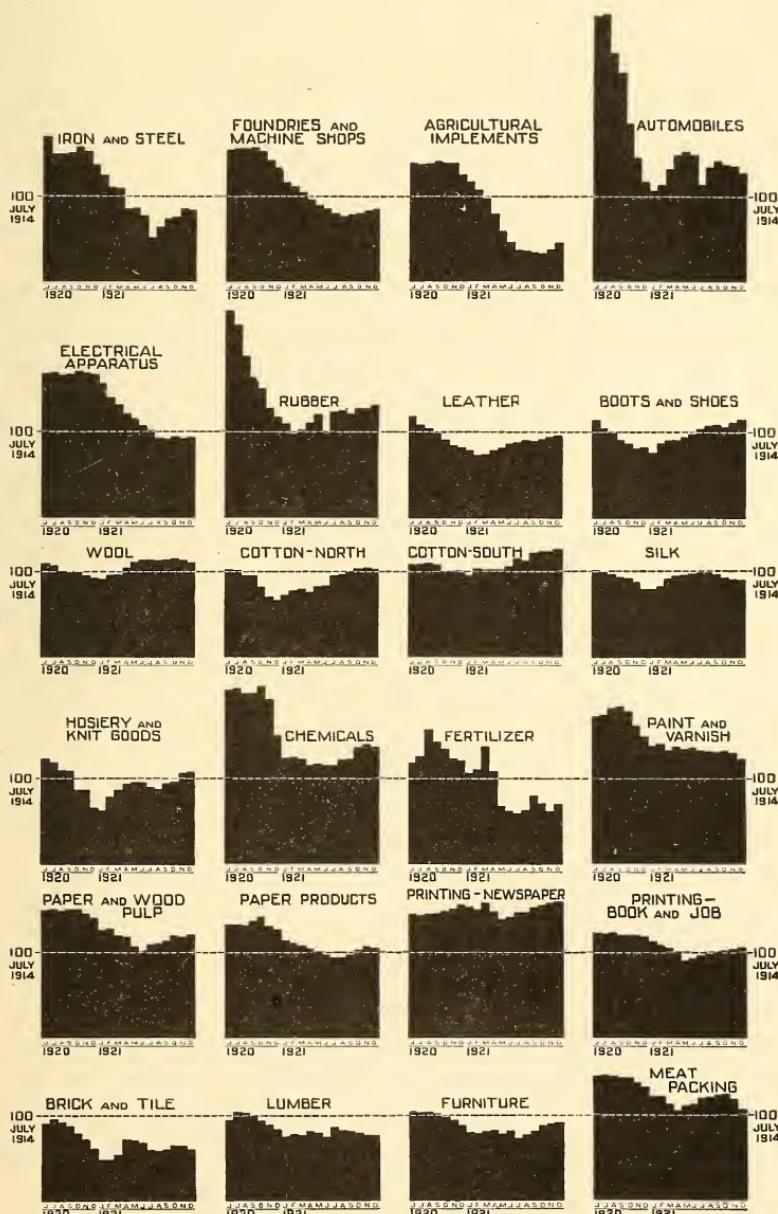
In general, this wage investigation shows that up to January, 1922, the decline from the peak in hourly and weekly earnings has been from 20% to 25%, with net increases for all wage earners at the beginning of 1922 ranging from 80% to 100% above 1914 levels.

Table C: Composite and Classified Employment in 24 Industries

Period	NUMBER WAGE EARNERS EMPLOYED					
	Composite			Classified		
	Total 1914-22 Establish. 2,601 plants	Index Nos. Employment (July, 1914 = 100)	Total 1920-22 Establish. 3,520 plants	All Male	Male Unskilled	Male Skilled
<i>1914</i>	582,744	100	.....	483,251	130,576	352,675
July.....	.....	.....	.....	.....	.....	99,493.
<i>1920</i>	.....	.....	.....	.....	.....	.....
June.....	865,171	148	1,068,519	100	899,930	245,867
July.....	856,238	147	1,054,582	99	889,799	247,375
Aug.....	830,768	143	1,025,908	96	867,152	245,250
Sept.....	816,593	140	1,000,985	94	846,511	237,390
Oct.....	778,049	134	952,362	89	804,245	226,379
Nov.....	720,673	124	894,588	84	756,754	207,033
Dec.....	681,371	117	835,070	78	706,408	189,479
<i>1921</i>	.....	.....	.....	.....	.....	.....
Jan.....	625,062	107	764,215	72	643,791	169,197
Feb.....	610,971	105	750,804	70	627,227	165,073
March.....	598,655	103	739,186	69	613,803	162,551
April.....	577,331	99	720,343	67	594,442	156,749
May.....	561,342	96	699,451	65	571,288	150,157
June.....	543,071	93	676,786	63	551,193	144,627
July*.....	526,735	90	647,953	61	524,189	134,206
Aug.....	530,982	91	655,554	61	529,528	134,852
Sept.....	538,688	92	664,091	62	534,327	137,220
Oct.....	544,098	93	671,411	63	538,442	140,706
Nov.....	554,096	95	682,532	64	549,592	142,678
Dec.....	558,918	96	686,444	64	553,134	143,883

*See Introduction, p. 2.

Chart D: Index Numbers of Changes in Employment by Industries, from July, 1914 as Base 100 to January, 1922



(National Industrial Conference Board)

EMPLOYMENT

Composite data on employment include complete returns from all industries except gas and electric companies, and the eight iron and steel companies already mentioned. *The total decline in employment in all industries from June, 1920, generally the peak of industrial activity, up to January, 1922, amounted to 35.8%.* Employment was fairly well sustained through October, 1920. A slight decline occurred in November, 1920. The next months witnessed extensive layoffs, which continued through July, 1921. From August, 1921 to the end of the year there was an increase of 3% in employment.

The effect of the industrial depression in the metal trades, brick and tile, chemical and rubber manufacturing overbalanced the increase in textile industries during 1921. The general tendency, however, at the close of 1921 was toward a continuous increase of working forces.

During the period from June, 1920 up to January, 1922, the percentages of decline in employment for the three groups were as follows: male common labor, 41.5%; male skilled labor, 37.4%; women, 20.8%. It will be noted that the end of the industrial depression has shown a smaller amount of unemployment for women than for men, male common labor being the most severely affected by industrial conditions. The last half of 1921 was characterized by a considerable increase in employment of women, which may be accounted for partly by the return of many piece-workers in textile industries.

Employment declined 4% in 2,601 identical establishments which furnished information from July, 1914 to the end of the year 1921. In other words, in December, 1921, the industrial depression had forced employment in the identical establishments below the level of July, 1914.

HOURS

The average hours of the *nominal week* have been compiled for all industries except gas and electric light plants and the entire iron and steel group. The former have been omitted from the composite returns as in other sections of the summary chapter for reasons mentioned above,¹ while the variable hours in the iron and steel industry make the compilation of the nominal week impossible.

¹See p. 7.

Table D: Average Actual Week per Wage Earner, Average Plant Hours, and Average Hours of the Nominal Week, All Industries, Classified and Composite Groups of Labor

PERIOD	Actual Week per Wage E. rner					Plant Hours	Nominal Week		
	Classified			All Male	Composite				
	Male Un-skilled	Male Skilled	Women						
<i>1914</i>									
July.....	52.7	50.6	50.1	51.2	51.0	53.8	55.1		
<i>1920</i>									
June.....	50.3	48.7	45.2	49.1	48.5	49.8	50.7		
July.....	50.3	48.7	44.9	49.2	48.5	49.7	50.7		
Aug.....	50.1	48.6	44.1	49.1	48.3	49.7	50.6		
Sept.....	49.7	47.9	44.4	48.4	47.8	49.3	50.5		
Oct.....	49.6	48.1	43.6	48.5	47.8	48.7	50.5		
Nov.....	48.5	46.9	41.7	47.3	46.5	47.5	50.6		
Dec.....	47.1	45.9	41.0	46.4	45.4	46.2	50.5		
<i>1921</i>									
Jan.....	45.2	44.1	41.4	44.4	43.9	45.2	50.5		
Feb.....	44.6	43.9	42.5	44.1	43.8	44.9	50.8		
March.....	45.1	43.6	42.8	44.0	43.8	45.2	50.7		
April.....	44.5	43.4	42.8	43.7	43.6	44.8	51.0		
May.....	44.7	43.8	44.0	44.0	44.0	45.6	50.6		
June.....	44.9	43.8	44.1	44.1	44.1	45.5	50.7		
July*.....	44.6	43.6	43.7	43.8	43.8	46.7	49.9		
Aug.....	45.3	43.9	44.2	44.3	44.3	44.7	50.0		
Sept.....	46.0	44.1	44.3	44.6	44.6	45.5	50.0		
Oct.....	47.2	45.4	44.7	45.8	45.6	47.0	50.2		
Nov.....	46.9	45.0	44.3	45.5	45.3	46.9	49.8		
Dec.....	47.6	46.0	45.5	46.4	46.2	47.2	49.8		

*See Introduction, p. 2.

In July, 1914, 55.1 hours constituted the average nominal week. Following the general reduction of working hours during the war period, the average hours of the nominal week declined to 50.7 in June, 1920. This level remained practically unchanged up to July, 1921. At this time, a great decline in the hours of the nominal week occurred in the foundry group, which brought down the average for the entire investigation, so that in July, 1921, the average hours were 49.9. In August and September they rose to 50, while in October they again increased to 50.2, but declined during November and December to 49.8.

Comparison of the trend of the nominal week with that of plant hours shows very clearly the general economic conditions existing in American manufacturing industries during the period covered by the investigation.

The *actual week of plant operation* has been compiled for all industries except chemical, and iron and steel manufacturing, and paper and wood pulp mills. These three industries, whose normal method of production is on a two or three shift basis, are not comparable with industries operating on single shifts.

The composite average hours of plant operation show a reduction from 53.8 in July, 1914, to 49.8 hours in June, 1920. Plant activity continued at a well sustained level through October, 1920. The following months were characterized by severe declines and depressed conditions which continued through September, 1921. During the remaining months of 1921 there was a considerable revival so that at the close of the year plant hours stood at 47.2. At the latter period they were still 2.6 hours below the peak of plant activity in 1920, or a decline of over 5%.

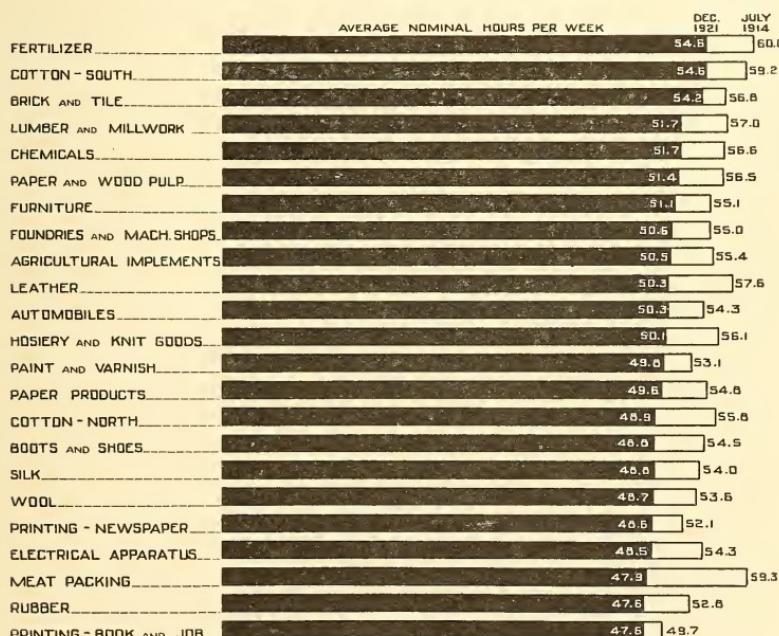
An analysis of the trend of plant hours clearly reflects the condition in American manufacturing industries from July, 1914 to the middle of 1921. From 1914 to 1920 there was a considerable reduction in the length of working hours and a consequent decline in plant activity, while the industrial depression during 1920-21 brought the level of plant hours unusually low. The closing months of 1921, however, show a considerable increase in productive activity.

The compilation of the hours of the *average actual week per wage earner* have been made from all industries except public utilities and eight iron and steel plants, which did not contribute hourly data. *The average week per wage earner showed a decline from 51 hours in July, 1914 to 48.5 in June, 1920. The latter level was well sustained through November, 1920, when the industrial depression and a decline in plant activity began to take effect. The next months showed even more severe reductions, so that by April, 1921 the average working hours were reduced to 43.6. The last five months of 1921 showed considerable revival, so that in December, 1921 the average wage earner was working 46.2 hours per week. This, however, is 2.3 hours below the level reached at the peak in 1920. The resump-*

tion of working hours during the last months of 1921 helped maintain weekly earnings at more or less permanent levels.

In the classified groups, the average hours of *common labor* in July, 1914 were 52.7. By June, 1920 they had decreased to 50.3, and in December, 1921 stood at 47.6. In July, 1914, the average *male skilled laborer* was working 50.6 hours. In June, 1920 the hours had fallen to 48.7 and in December, 1921 to 46 hours. In July, 1914 the average *woman wage earner* was working 50.1 hours. In June, 1920 the hours had fallen to 45.2, but a strong revival during the last six months of 1921 brought the hours back to 45.5 in December, 1921. This increase in the working hours of women helped maintain both the actual and real wages of women at increased levels, and, in general, women have been less affected by the industrial depression than men.

Chart E: Average Nominal Hours per Week, by Industries, July, 1914 and December, 1921



(National Industrial Conference Board)

B. Comparison of Data Between Industries

WAGES

The data are presented in bar diagrams F, and in tables E and F, showing the actual hourly and weekly wages in July, 1914, at the peak, and in December, 1921. In addition, the tables show the percentage of decline from the peak. This section shows comparison of wages between industries and is a recapitulation of material contained in the text for the different industries.

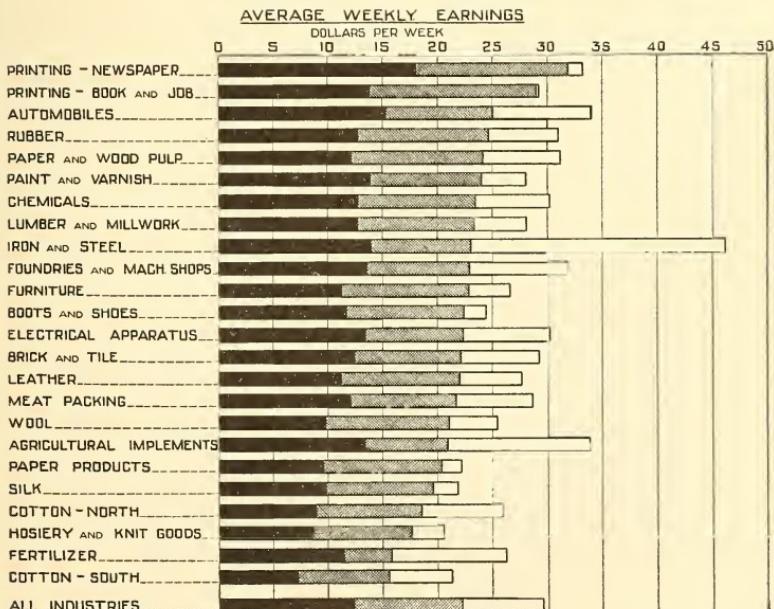
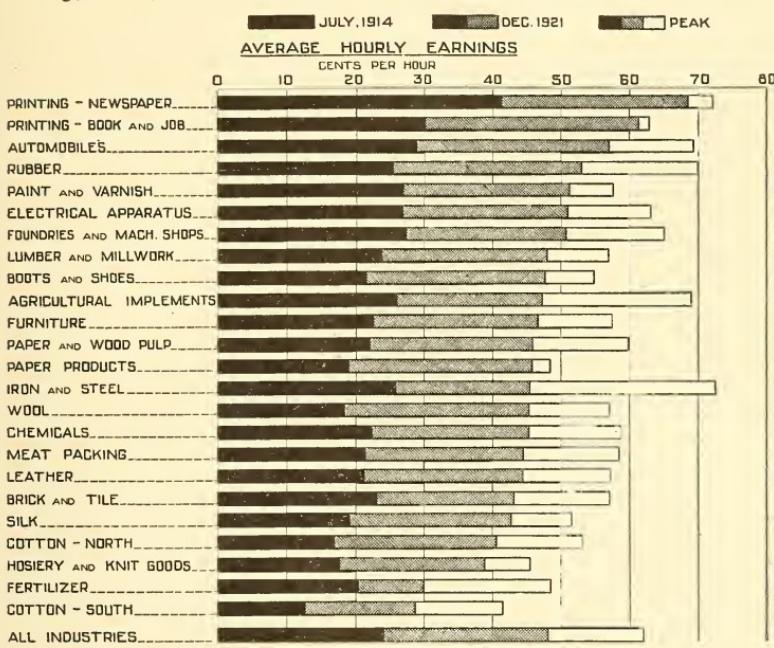
PERCENTAGE INCREASES IN HOURLY AND WEEKLY EARNINGS
IN DECEMBER, 1921, OVER JULY, 1914

	Hourly	Weekly
Foundry and Machine Shop Products.....	85	69
Automobile Manufacturing.....	97	63
Agricultural Implement Manufacturing.....	81	56
Electrical Apparatus Manufacturing.....	89	66
Iron and Steel Manufacturing.....	75	65
Cotton Manufacturing (North).....	138	109
Cotton Manufacturing (South).....	126	113
Wool Manufacturing.....	146	116
Silk Manufacturing.....	122	98
Hosiery and Knit Goods Manufacturing.....	118	105
Rubber Manufacturing.....	107	93
Leather Tanning and Finishing.....	108	95
Boot and Shoe Manufacturing.....	120	93
Meat Packing.....	106	79
Chemical Manufacturing.....	101	84
Fertilizer Manufacturing.....	46	38
Paint and Varnish Manufacturing.....	89	72
Paper and Wood Pulp Manufacturing.....	106	99
Paper Products Manufacturing.....	139	110
Printing and Publishing (Book and Job).....	102	110
Printing and Publishing (Newspapers).....	66	77
Lumber and Millwork Manufacturing.....	101	83
Furniture Manufacturing.....	106	103
Brick and Tile Manufacturing.....	85	79
Generation and Distribution of Electricity.....	96	88
Manufacture and Distribution of Gas.....	92	95

*Percentages of Decline in Hourly and Weekly Earnings from
the Peak up to January, 1922*

Tables E and F show the actual hourly and weekly earnings in July, 1914, at the peak and December, 1921, together with the percentage of decline from the peak. In analyzing these declines, it will be noted that the greatest decline in hourly earnings has occurred among the following industries:

*Chart F: Average Hourly and Weekly Earnings, by Industries,
July, 1914, at the Peak, and in December, 1921*



*Table E: Actual Hourly Earnings by Groups and Industries in July, 1914, at the Peak, and in December, 1921,
with the Percentages of Decline from the Peak*

Industry	COMPOSITE				MALE UNSKILLED				MALE SKILLED				WOMEN			
	July, 1914	Peak	Dec., 1921	Percent Decline from Peak	July, 1914	Peak	Dec., 1921	Percent Decline from Peak	July, 1914	Peak	Dec., 1921	Percent Decline from Peak	July, 1914	Peak	Dec., 1921	Percent Decline from Peak
I. Metal Trades																
I. Foundries and Machine Shops...	\$.652	\$.508	22.4	\$.210	\$.553	\$.414	25.1	\$.304	\$.713	\$.561	21.3	\$.302	\$.305	22.2		
II. Automobiles...	.696	.572	17.8	.220	.587	.441	24.9	.312	.765	.607	20.7	.423	.359	15.1		
III. Agricultural Implements	.692	.474	31.5	.220	.587	.411	30.0	.283	.741	.501	32.4	.488	.338	30.7		
IV. Electrical Apparatus...	.270	.632	51.0	.221	.568	.409	28.0	.296	.701	.561	20.7	.167	.157	18.0		
V. Iron and Steel.....	.260	.727	.456	.373	.200	.588	.360	.388	.831	.512	38.4	.406	.333	18.0		
VI. Textiles																
(a) Cotton (North)...	.171	.533	.407	.23.6	.166	.491	.369	.193	.612	.478	.21.9	.150	.473	.357	24.5	
(b) Cotton (South)...	.128	.416	.455	.30.3	.095	.329	.250	.24.0	.145	.321	.34.8	.117	.348	.259	25.6	
VII. Wool...	.185	.571	.429	.18.7	.553	.416	.24.8	.211	.657	.534	.18.7	.159	.494	.387	21.7	
VIII. Silk...	.193	.517	.429	.17.0	.20.1	.523	.420	.19.7	.24.3	.637	.518	.18.7	.153	.426	.354	16.9
IX. Hosiery and Knit Goods...	.179	.456	.390	.14.3	.16.3	.492	.376	.22.2	.24.2	.642	.564	.12.1	.159	.395	.343	13.2
X. Rubber.....	.256	.702	.531	.24.4	.218	.589	.408	.30.7	.288	.794	.619	.22.0	.180	.449	.342	23.8
XI. Leather and Boots and Shoes...	.214	.573	.446	.22.2	.19.9	.523	.384	.23.5	.634	.503	.20.7	.146	.427	.296	30.7	
XII. Roots and Shoes...	.218	.550	.479	.12.9	.18.7	.414	.345	.16.7	.246	.626	.549	.12.3	.171	.434	.372	14.3
XIII. Meat Packing.....	.216	.586	.446	.23.9	.18.3	.544	.387	.31.7	.269	.667	.533	.20.1	.12.3	.432	.289	33.1
XIV. Chemicals																
(a) Chemicals.....	.226	.589	.454	.22.9	.214	.559	.413	.26.1	.266	.662	.530	.19.9	.13.3	.340	.294	13.5
(b) Fertilizers.....	.206	.486	.301	.38.1	.19.6	.464	.269	.42.0	.223	.592	.398	.32.8	.13.3	.356	.293	13.5
XV. Paint and Varnish.....	.272	.578	.513	.11.2	.252	.551	.470	.14.7	.351	.710	.632	.11.0	.179	.367	.343	6.5
XVI. Paper and Printing																
(a) Paper Manufacturing																
Pulp.....	.223	.600	.460	.23.3	.20.4	.557	.390	.30.0	.264	.650	.520	.20.0	.136	.399	.315	21.1
(b) Paper Products...	.192	.485	.459	.5.4	.188	.527	.428	.18.8	.256	.642	.621	3.3	.154	.375	4.5	
Printing (Book and Job)	.304	.631	.615	2.5	.198	.464	.430	.7.3	.398	.807	.785	2.7	.158	.355	2.7	
XVII. Printing (Newspaper)...	.415	.723	.687	.5.5	.311	.632	.526	.16.8	.468	.805	.770	4.4	.191	.437	.420	3.9
Building Materials and Furniture																
XIX. Lumber and Millwork...	.240	.572	.482	15.7	.192	.464	.355	.23.0	.285	.658	.559	.15.0	.155	.356	.293	17.7
XX. Furniture																
XXI. Bricks and Tile.....	.228	.576	.469	.18.6	.16.2	.474	.353	.25.5	.256	.633	.517	.18.3	.155	.356	.293	17.7
XXII. Public Utilities																
Electricity.....	.278	.566	.544	3.9	.238	.505	.432	.14.5	.287	.582	.574	1.4	.14.5	.356	.293	17.7
Gas.....	.270	.584	.518	.11.3	.208	.541	.458	.15.3	.318	.613	.553	9.8	.14.5	.356	.293	17.7

*Table F: Actual Weekly Earnings by Groups and Industries in July, 1914, at the Peak, and in December, 1921,
with the Percentages of Decline from the Peak*

Industry	COMPOSITE			MALE UNSKILLED			MALE SKILLED			WOMEN			
	July, 1914	Dec., 1921	Per cent Decline from Peak	July, 1914	Dec., 1921	Per cent Decline from Peak	July, 1914	Dec., 1921	Per cent Decline from Peak	July, 1914	Dec., 1921	Per cent Decline from Peak	
	July, 1914	Peak	Per cent Decline from Peak	July, 1914	Peak	Per cent Decline from Peak	July, 1914	Peak	Per cent Decline from Peak	July, 1914	Peak	Per cent Decline from Peak	
<i>Metal Trades</i>													
I. Foundries and Machine Shops.....	\$13.51	\$31.72	22.87	27.9	\$11.19	\$27.85	\$19.04	31.6	\$14.74	\$34.59	\$25.08	27.5	
II. Automobiles.....	15.35	34.05	25.04	26.5	12.15	28.27	21.47	24.1	16.23	36.75	26.18	28.8	
III. Agricultural Implements.....	13.43	33.85	23.25	38.2	17.34	29.53	17.18	14.8	14.49	36.04	22.56	37.4	
IV. Electrical Apparatus.....	13.44	30.77	22.30	26.3	11.40	27.62	17.76	35.7	14.67	33.95	24.67	27.3	
V. Iron and Steel.....	13.97	46.26	23.01	50.3	11.42	34.06	18.03	47.1	15.96	53.24	24.49	52.1	
VI. Textiles													
(a) Cotton (North).....	8.90	25.94	18.59	28.3	8.85	25.22	17.36	31.2	10.21	30.03	22.33	25.6	
(b) Cotton (South).....	7.21	21.28	15.50	27.2	5.57	17.41	15.82	22.6	11.48	30.51	25.27	30.0	
VII. Wool.....	9.77	25.46	21.09	17.7	9.75	24.75	19.94	19.4	12.41	27.14	23.94	17.2	
VIII. Silk.....	9.88	21.92	19.57	10.7	12.07	24.61	20.50	16.7	12.36	29.01	24.69	14.9	
IX. Hosiery and Knit Goods.....	8.59	17.65	14.3	8.54	22.71	18.35	17.9	14.27	14.57	28.54	17.5	8.79	
X. Rubber.....	12.75	31.09	24.66	20.7	11.56	27.96	18.69	33.2	14.27	34.57	28.54	17.5	
<i>Leather and Boots and Shoes</i>													
XI. Leather Tanning and Dyeing.....	11.24	27.69	21.93	20.8	11.01	26.46	19.54	26.2	11.92	30.20	24.16	20.0	
XII. Boot and Shoe Mfg.....	11.60	24.43	22.43	8.2	9.86	19.61	15.93	18.8	13.18	28.01	25.72	8.2	
XIII. Meat Packing.....	12.07	28.66	21.62	24.6	10.25	26.63	18.66	29.9	15.12	33.04	26.19	20.3	
<i>Chemicals and Paints</i>													
XIV. Chemicals.....	12.77	30.25	23.49	22.3	11.89	28.34	21.66	23.6	15.59	36.07	27.22	24.5	
(a) Chemicals.....	11.42	26.27	15.78	39.9	10.66	24.43	13.67	44.0	12.83	36.01	22.74	36.9	
(b) Fertilizers.....	13.96	28.00	24.03	14.2	13.03	27.34	22.04	19.4	17.88	33.38	30.02	10.1	
XV. Paint and Varnish.....													
<i>Paper and Printing</i>													
XVI. Paper Manufacturing													
(a) Paper and Wood Pulp.....	12.14	31.27	24.17	22.7	11.26	28.68	20.64	28.0	15.13	34.80	27.98	19.6	
(b) Paper Products.....	13.82	22.17	20.34	8.3	11.23	27.26	20.11	26.2	13.41	30.53	28.37	7.1	
XVII. Printing (Book and Job).....	18.05	33.59	29.22	0.7	9.63	23.14	21.04	9.1	18.23	38.50	37.05	3.8	
XVIII. Printing (Newspaper).....					5.0	9.91	23.48	20.09	14.4	20.86	37.72	36.91	4.9
<i>Building Materials and Furniture</i>													
XIX. Lumber and Millwork.....	12.77	28.13	23.32	17.1	10.34	23.22	17.02	26.7	15.00	31.63	27.19	14.0	
XX. Furniture.....	11.23	26.65	22.83	14.3	8.08	21.91	17.59	19.7	12.62	29.56	25.15	14.9	
XXI. Bricks and Tile.....	12.42	29.20	22.22	23.9	11.93	27.76	20.56	25.9	13.86	33.51	28.21	15.8	
<i>Public Utilities</i>													
XXII. Electricity.....	14.68	27.80	27.54	0.9	12.10	22.57	18.26	19.1	15.32	30.67	30.67	0	
XXIII. Gas.....	1.01	30.02	27.31	9.0	10.77	26.76	23.41	12.5	16.58	32.21	29.76	7.6	

Fertilizer Manufacturing.....	38.1%
Iron and Steel Manufacturing.....	37.3%
Agricultural Implement Manufacturing.....	31.5%
Cotton (South).....	30.5%
Rubber Manufacturing.....	24.4%
Meat Packing.....	23.9%
Cotton (North).....	23.6%
Paper and Pulp Manufacturing.....	23.3%

The smallest declines in hourly earnings have occurred among the following groups:

Printing and Publishing (Book and Job).....	2.5%
Manufacture and Distribution of Gas.....	3.9%
Printing and Publishing (Newspaper).....	5.5%
Paper Products Manufacturing.....	5.4%

The largest declines from the peak in weekly earnings have occurred in the following groups:

Iron and Steel Manufacturing.....	50.3%
Fertilizer Manufacturing.....	39.9%
Agricultural Implement Manufacturing.....	38.2%
Cotton (North).....	28.3%
Foundry and Machine Shop Products.....	27.9%
Cotton (South).....	27.2%

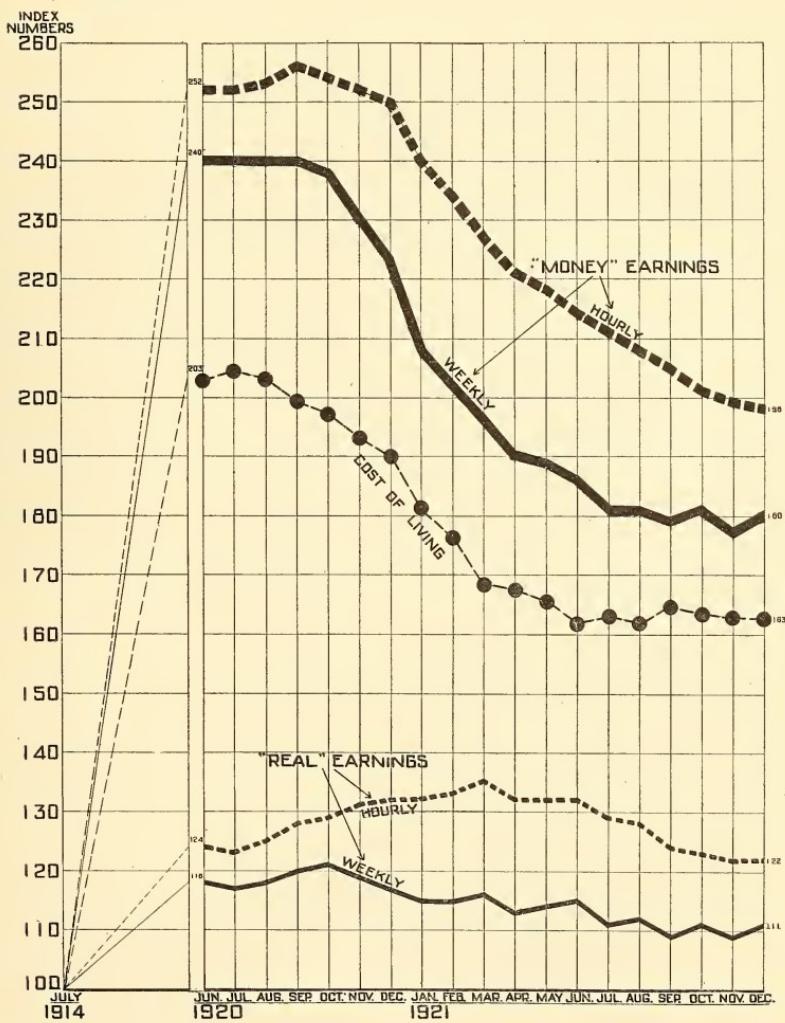
The smallest declines in weekly earnings occurred among the following groups:

Printing and Publishing (Book and Job).....	0.7%
Generation and Distribution of Electricity.....	0.9%
Printing and Publishing (Newspaper).....	5.0%
Boot and Shoe Manufacturing.....	8.2%
Paper Products Manufacturing.....	8.3%

C. Comparison of Composite Hourly and Weekly Earnings with the Cost of Living

This investigation dealt primarily with hourly and weekly *money wages* of male labor, common and skilled, and women for various industries. Such data, however, do not directly reflect the economic status of the wage earner in the periods covered. In addition it is necessary to show the relation of *money wages* to the *cost of living* in order to ascertain the purchasing power of the wages received, or, in other words, to determine *real wages*. This is done by dividing the index of money wages at any given period by the index of the cost of living for that period. For example, if a weekly wage of \$20 would buy one living at a time when the wage earner's cost of living was \$20 a week, an increased weekly wage of \$40

Chart G: Cost of Living, Hourly and Weekly "Money" and "Real" Wages, All Wage Earners, All Industries, July, 1914 —January, 1922



(National Industrial Conference Board)

would buy two livings if the cost of living were stationary, or would buy one living with an increase of the cost of living to \$40 per week, or would buy one and one-third livings, if the weekly cost of living were to rise to \$30 per week. A worker whose wage rose from \$20 to \$25 while the cost of living remained stationary, would be able to purchase one living and a quarter at the latter time and thus be 25% better off in real wages.

In the present report the composite hourly and weekly earnings in the various industries and for the classified groups are shown, together with the changes in the cost of living for the country as a whole, as ascertained by the National Industrial Conference Board¹ and by combining the two, changes in *real wages* during the periods studied are brought out. Comparison of wage changes in specific industries, with changes in the cost of living for the country as a whole, serve, in a general way, to reflect the *real wages* in these separate industries, but they do not necessarily portray the actual purchasing power of *money wages* in particular industrial centers. Since most industries are highly localized, the *real wages* of the workers in them can be determined accurately only on the basis of a localized cost of living study.

Table G and chart H show the composite and classified *real* hourly and weekly wages.

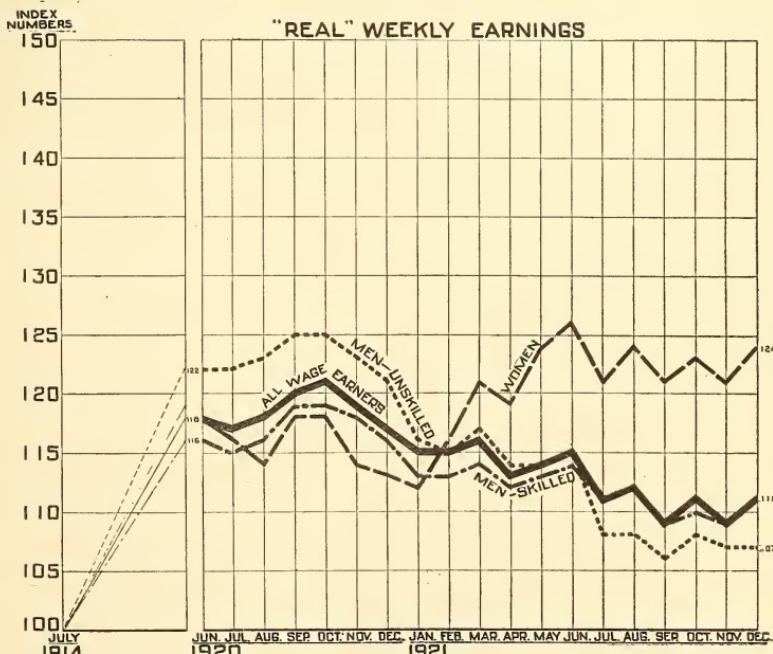
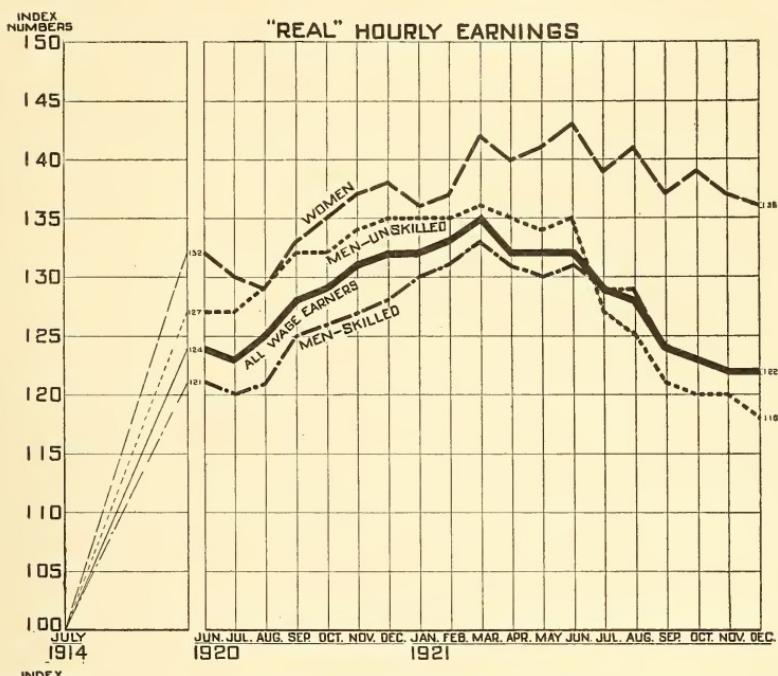
REAL HOURLY WAGES

Starting in July, 1914, with index number 100 for cost of living, for *money wages* and for *real wages*, in July, 1920, when the cost of living had reached an index figure of 204.5, actual hourly earnings had increased to 252. Thus, in July, 1920, the index for the *real wage* on the basis of hourly earnings was 123.

While the peak of the cost of living was reached in July, 1920, the peak of hourly earnings did not occur until September, 1920. The decline in the cost of living, subsequent to Ju'y, 1920, therefore, continued to increase the real hourly earnings, so that in March, 1921, they stood at 135. During the next three months, real hourly earnings remained at 132, but beginning in July, 1921 and continuing through the remaining months of the year, there was a continued decline, so that in

¹See Research Reports Nos. 9, 14, 17, 19, 25, 28, 30, 36, 39, 44.

Chart H: Index Numbers, "Real" Hourly and Weekly Earnings, All Industries, by Groups and for All Wage Earners, July, 1914—January, 1922



(National Industrial Conference Board)

Table G: Index Numbers of Cost of Living and Real Hourly and Weekly Earnings, All Wage Earners, All Male Wage Earners, and Classified Groups, All Industries

Period	Index Cost of Living	Index "Real" Hourly Earnings			All Wage Earners	All Male Wage Earners	Index "Real" Weekly Earnings	All Male Wage Earners	Unskilled Male	Skilled Male	Women
		All Wage Earners	All Male Wage Earners	Unskilled Male							
July.....	100.0	100	100	100	100	100	100	100	100	100	100
<i>1920</i>											
June.....	203.0	124	122	127	121	132	118	117	122	116	118
July...	204.5	123	121	127	120	130	117	117	122	115	116
Aug...	203.2	125	123	129	121	129	118	118	123	116	114
Sept...	199.4	128	126	132	125	133	120	120	125	119	118
Oct.....	197.3	129	127	132	126	135	121	120	125	119	118
Nov.....	193.1	131	128	134	127	137	119	119	123	118	114
Dec.....	190.0	132	129	135	128	138	117	117	121	116	113
<i>1921</i>											
Jan.....	181.2	132	131	135	130	136	115	114	116	113	112
Feb.....	176.3	133	132	135	131	137	115	114	115	113	116
March...	168.7	135	134	136	133	142	116	115	117	114	121
April...	167.6	132	132	135	131	140	113	113	114	112	119
May...	165.7	132	132	134	130	141	114	113	114	113	124
June.....	161.9	132	132	135	131	143	115	114	115	114	126
July*	163.1	129	127	129	129	139	111	111	108	111	121
Aug.....	162.0	128	128	125	129	141	112	111	108	112	124
Sept...	164.8	124	124	121	124	137	109	108	106	109	121
Oct.....	163.7	123	123	120	123	139	111	110	108	110	123
Nov.....	163.0	122	121	120	122	137	109	109	107	109	121
Dec.....	162.7	122	121	118	122	136	111	110	107	111	124

December, 1921, real hourly earnings stood at 122. During this period both actual hourly earnings and cost of living declined considerably, the decline in actual hourly earnings affecting the reduction of real hourly earnings more than the declining cost of living. In other words, at the beginning of 1922, the real hourly earnings of all wage earners were 22% higher than in July, 1914.

In the specific groups, the peak of real hourly earnings for *male common labor* was reached in March, 1921, the index being 136 at this period. The last six months of 1921 witnessed a considerable decline in real hourly earnings of male *common labor* so that in December, 1921 they stood at 118 or 18% above the July, 1914 level.

The peak of real hourly earnings for *male skilled labor* was reached in March, 1921, when the index stood at 133. The last six months of 1921 showed a considerable decline in real hourly earnings of this class so that in December, 1921 they stood at 122 or 22% above July, 1914.

The peak of real hourly earnings for *women* occurred much later than in the case of the other groups, the index standing at 143 in June, 1921. While the cost of living had declined considerably to this point, money wages for *women* had not been considerably reduced. The consequence was a sustained level of real wages, with the peak occurring in the middle of 1921. The last six months of 1921 showed a slight decline in real hourly earnings for *women* so that in December, 1921 the index stood at 136, or 36% above July, 1914.

REAL WEEKLY WAGES

The peak of real weekly earnings for *all wage earners* occurred in October, 1920, when the index number stood at 121. The following months showed considerable decline in real weekly earnings, caused chiefly by the shortening of working hours. The last six months of 1921 showed a more or less permanent level of real weekly earnings. The maintenance of real weekly earnings during the last six months of 1921, in the face of reduced hourly earnings, was due to an increase in working hours and a declining cost of living. In December, 1921, the index of real weekly earnings for all wage earners

stood at 111. In other words, at the beginning of 1922 real weekly earnings were 11% higher than in July, 1914.

In the classified groups, the peak of real weekly earnings for *male common labor* occurred in September and October, 1920, when the index stood at 125. The decline in real weekly earnings for *common labor* became severe at the beginning of 1921, but during the last six months of 1921 remained at practically a stationary level, the index for December, 1921 being 107, or 7% above the July, 1914 level.

The peak of real weekly earnings of *male skilled labor* occurred in September and October, 1920, when the index number stood at 119. Gradual declines occurred up to July, 1921. The last six months of 1921 showed practically a stationary condition, the real weekly earnings index in December, 1921, being 111. The average skilled male laborer, therefore, was 11% better off at the latter period than in July, 1914.

The peak of real weekly earnings for *women* occurred in June, 1921, when the index was 126, attributable to causes already mentioned in the discussion of real hourly wages. The last six months of 1921 witnessed a practically stationary level of real weekly earnings, the index of December, 1921, being 124. In other words, *women* were 24% better off at the beginning of 1922 than at July, 1914. At the close of 1921 the increase in the purchasing power of women's wages was far above that of men, the percentages of increase over 1914 in real weekly earnings for the three groups being *male common labor*, 7%; *male skilled labor*, 11%; *women*, 24%.

The investigation, therefore, shows that at the beginning of 1922, the average wage earner was 22% better off in real hourly wages and 11% better off in real weekly wages than in July, 1914. The large amount of part time employment in addition to wage reductions was responsible for the great difference between real hourly and real weekly earnings.

D. General Conclusions

The study of wages, employment and hours in twenty-six principal manufacturing industries of the United States from July, 1914, up to July, 1922, shows:

1. Average hourly earnings of *all wage earners* on January 1, 1922, stood at \$.482, or 98% above the 1914 level of \$.243.
2. Average weekly earnings of *all wage earners* stood at \$22.27, or 80% above the July, 1914 level of \$12.36.
3. Reductions in wages from the peak up to January, 1922, amounted to 22.4% in hourly earnings and 25% in weekly earnings. In these wage reductions, *common labor* was most affected, while *women* were considerably less affected than men.
4. Weekly earnings declined more rapidly than hourly earnings, due to part time employment and the shortening of the working week.
5. Employment declined 35.8% from June, 1920 to January, 1922, the trough period of unemployment occurring in the middle of 1921, followed by a 3% increase up to January, 1922. The industrial depression brought employment in identical establishments at the latter date 4% below the level of July, 1914.
6. Between July, 1914 and June, 1920 there was a shortening of the working week. Between June, 1920 and the trough period in April, 1921, the average actual working hours declined 4.9. By January, 1922, however, they had increased 2.6 hours to 46.2, but in the latter period they were still 2.3 hours below the peak at 1920. The recovery of the length of working hours helped maintain weekly earnings, although hourly earnings continued to decline during the last half of 1921.
7. The effects of the industrial depression are most clearly shown in the decline in plant hours. The average plant in December, 1921, was working 2.6 hours below the peak reached in 1920.
8. Between July, 1914 and June, 1920, the nominal week was reduced from 55.1 hours to 50.7. By January, 1922, it had declined still further to 49.8.
9. *The real hourly wage of the average wage earner was 22% higher and the real weekly wage 11% higher in December, 1921 than in July, 1914. Measured by the purchasing power of money wages, the economic status of the average wage earner in the principal manufacturing industries was still higher at the end of 1921*

than before the war, despite considerable wage reductions, part-time employment, and curtailment of production due to the industrial depression. The last six months of 1921 witnessed practically sustained levels of both actual and real weekly earnings, so that at the close of 1921, conditions pointed to a return of more stable wage conditions and the termination of the period of deflation.

I

FOUNDRY AND MACHINE SHOP PRODUCTS¹

The metal trades have been divided into four sections in this wage investigation: foundry and machine shops products, agricultural implement manufacturing, automobile manufacturing and electrical apparatus manufacturing. The foundry and machine shop division covers all establishments not included under other classifications in the metal manufacturing group. Foundries and machine shops are necessarily employed in the manufacture of a great variety of products, and while there are establishments making well-defined products that might be placed in a separate group, many other foundries and machine shops manufacture miscellaneous products of such wide variety that separation into these smaller classifications has not been made. Generally speaking, exclusive of the three other industries designated above, the classification "foundry and machine shop products" covers the type of establishments studied.

Returns were received from 1,353 plants, 1,338 of which furnished information for the last wage investigation. The largest number of wage earners employed in any one month was 388,560 in September, 1920. Thus, over 73% of the wage earners reported by the 1919 Census of Manufactures as employed in foundries and machine shops are covered in this report. The data may be considered representative in the coverage of wage earners and in the distribution and size of establishments involved. The investigation covers the states where the largest amount of foundry and machine shop products is manufactured. The geographical distribution within 42 states and Canada is as follows:

Alabama.....	7	Kentucky.....	9
Arkansas.....	1	Louisiana.....	2
California.....	39	Maine.....	3
Colorado.....	3	Maryland.....	7
Connecticut.....	84	Massachusetts.....	151
Delaware.....	6	Michigan.....	59
Georgia.....	3	Minnesota.....	14
Illinois.....	104	Missouri.....	43
Indiana.....	48	Montana.....	2
Iowa.....	22	Nebraska.....	4
Kansas.....	7	Nevada.....	1

¹Exclusive of agricultural implements, automobiles and electrical apparatus manufacturing.

New Hampshire.....	7	Tennessee.....	5
New Jersey.....	49	Texas.....	9
New Mexico.....	1	Utah.....	1
New York.....	179	Vermont.....	5
North Carolina.....	2	Virginia.....	6
Ohio.....	182	Washington.....	12
Oklahoma.....	4	West Virginia.....	6
Oregon.....	4	Wisconsin.....	53
Pennsylvania.....	186	Wyoming.....	1
Rhode Island.....	20	Canada.....	1
South Carolina.....	1		

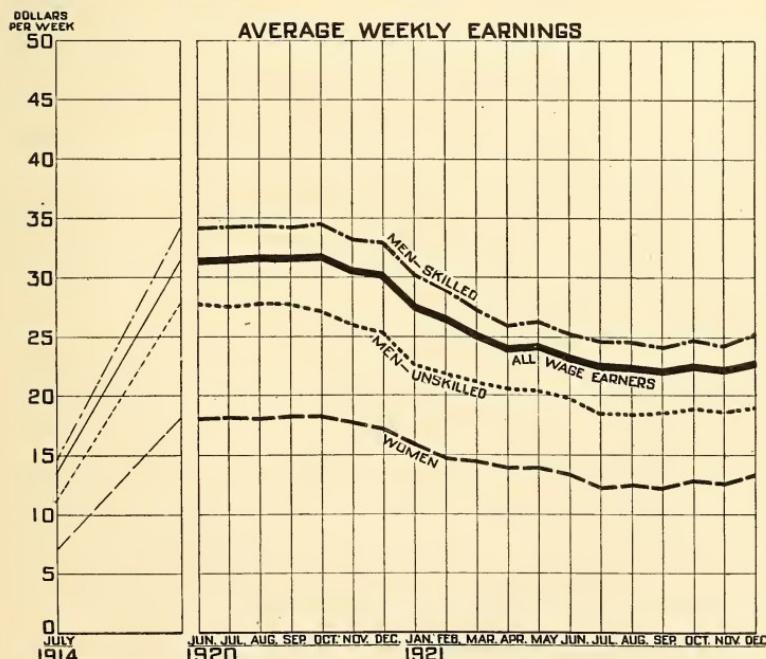
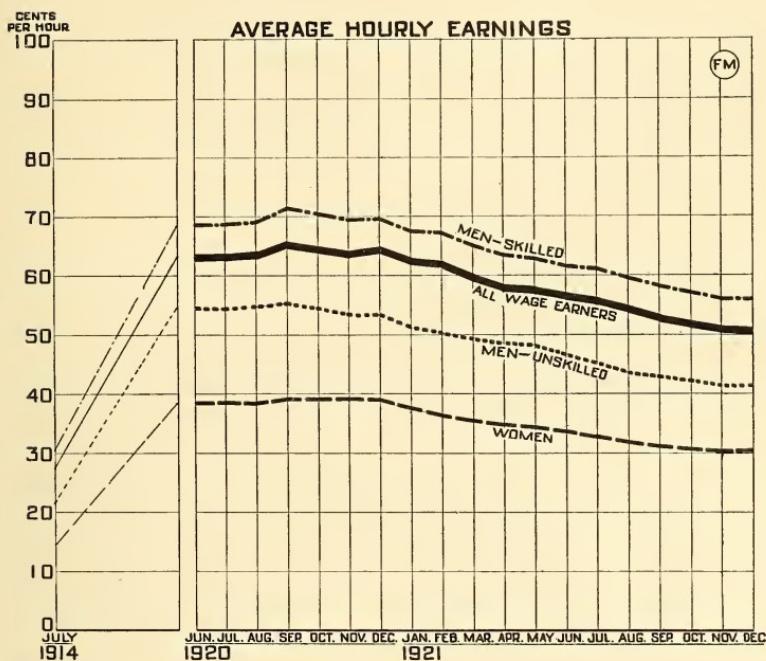
Wages

(a) *Hourly earnings:* In July, 1914, the average hourly earnings of *all wage earners* were \$.275. By September, 1920, they had risen 137% to \$.652. The decline was 22.1% from the latter period up to January, 1922, at which time the average hourly earnings were \$.508, an increase of 85% over July, 1914. The decline in hourly earnings, though extensive, has been gradual throughout the period covered by the investigation.

In July, 1914, the average hourly earnings of *male common labor* were \$.219. By September, 1920, they had increased 153% to \$.553. The decline from the latter period up to January, 1922 was 25.1% to \$.414. In July, 1914, the average hourly earnings of *male skilled labor* were \$.304. By September, 1920, they had risen 135% to \$.713, declining again 21.3% to \$.561 from the latter period up to the beginning of 1922. In July, 1914, the average hourly earnings of *women* were \$.146. In September and October, 1920, they had risen 168% to \$.392. The decline from this peak up to January, 1922 amounted to 22.2%, the average hourly earnings at the beginning of 1922 being \$.305. By January, 1922, therefore, the average hourly earnings of these three groups had increased respectively 89%, 85% and 109% over the July, 1914 levels. Relatively, the largest net increase over 1914 was found in the female group, while the largest amount of decline from the peak was found in the male common labor group.

(b) *Weekly earnings:* The average weekly earnings of *all wage earners* in July, 1914 were \$13.51. By October, 1920, they had risen 135% to \$31.72. The decline amounted to 27.9% from the latter period up to January, 1922, at which time the average weekly earnings were \$22.87, a net increase of 69% over July, 1914. The general high level of weekly earnings was maintained in 1920. The first six months of 1921 witnessed severe declines in weekly earnings, due to cur-

Foundry and Machine-Shop Practice



(National Industrial Conference Board)

Composite Payroll Data—Foundries and Machine Shops

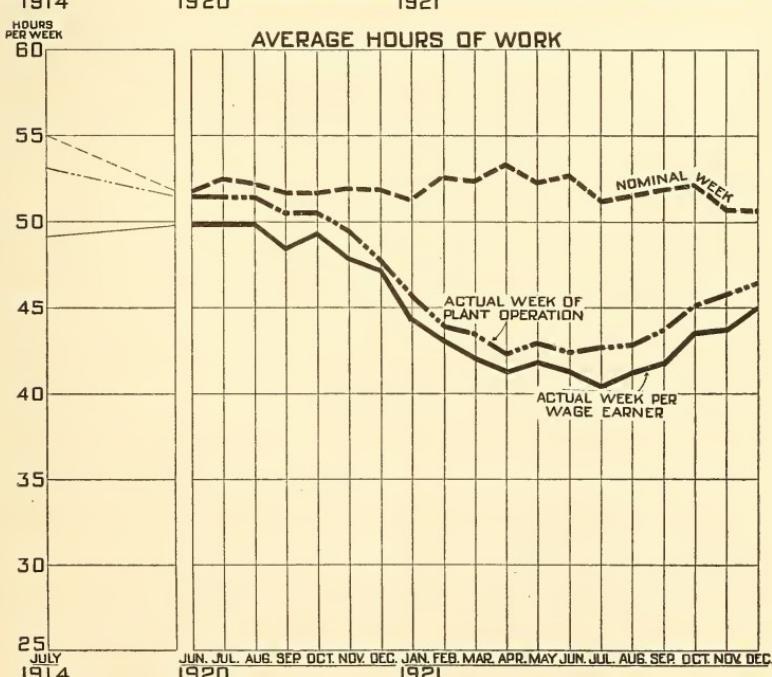
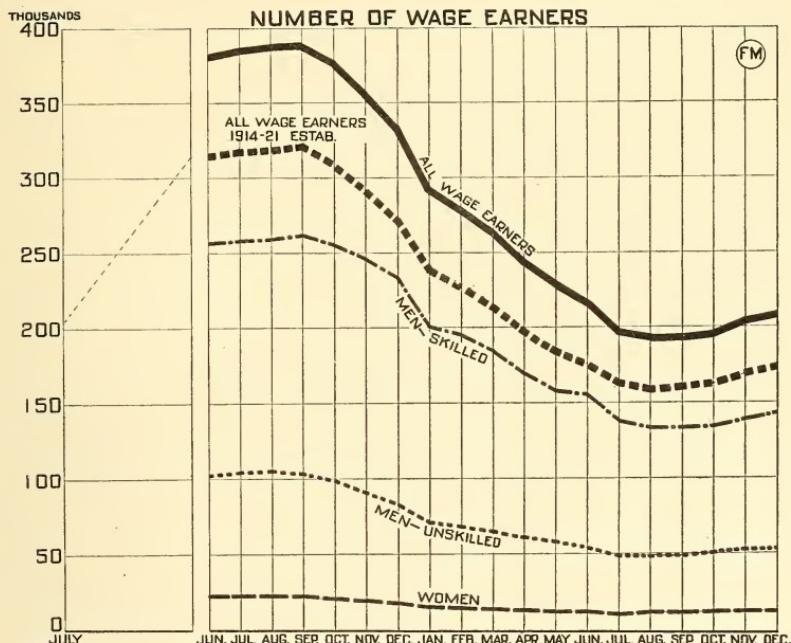
Period One Week In	Number Wage Earners Employed		Average Hours			Wages (All Wage Earners)				
	1914-22 Establ. (1047 plants)	1920-22 Establ. (1353 plants)	Av. Week Per Wage Earner	Av. Hours Plant Oper- ation	Nomi- nal Week	Av. Hrly. Earn- ings	Av. Wkly. Earn- ings	Index Nos. Earnings	Hrly.	Wkly.
1914										
July....	204,209	.....	49.2	53.2	55.0	\$.275	\$13.51	100	100	
1920										
June....	314,467	381,464	49.9	51.5	51.7	.630	31.42	229	233	
July....	317,123	385,078	49.9	51.5	52.5	.631	31.47	229	233	
Aug....	318,989	387,402	49.9	51.5	52.2	.634	31.63	231	234	
Sept....	321,093	388,560	48.5	50.6	51.6	.652	31.61	237	234	
Oct....	309,889	376,890	49.3	50.5	51.6	.644	31.72	234	235	
Nov....	292,671	356,560	47.9	49.6	51.9	.639	30.61	232	227	
Dec....	272,717	333,544	47.2	47.7	51.8	.641	30.23	233	224	
1921										
Jan....	239,896	292,945	44.4	45.7	51.3	.622	27.62	226	204	
Feb....	227,716	278,927	43.1	44.0	52.6	.617	26.55	224	197	
March..	213,884	263,749	42.1	43.5	52.4	.597	25.12	217	186	
April...	197,936	244,615	41.3	42.4	53.3	.580	23.96	211	177	
May....	184,156	228,113	41.9	43.0	52.3	.577	24.16	210	179	
June....	176,195	216,687	41.3	42.4	52.7	.563	23.27	205	172	
July*....	163,105	197,943	40.4	42.7	51.2	.558	22.52	203	167	
Aug....	158,212	193,185	41.3	42.9	51.5	.541	22.35	197	165	
Sept....	160,001	193,599	41.8	43.8	51.9	.528	22.10	192	164	
Oct....	162,953	196,608	43.6	45.1	52.1	.517	22.54	188	167	
Nov....	169,709	204,214	43.8	45.8	50.7	.508	22.24	185	165	
Dec....	173,307	208,459	45.0	46.4	50.6	.508	22.87	185	169	

*See Introduction, p. 2.

tailment of working hours. During the last six months of 1921, weekly earnings were maintained on a level of between \$22.00 and \$23.00 because of the resumption of longer working hours, while hourly earnings continued to decline.

In July, 1914, the average weekly earnings of *male common labor* were \$11.19. By August, 1920, they had increased 149% to \$27.85. From the latter period up to January, 1922, they declined 31.6% to \$19.04. In July, 1914, the average weekly earnings of *male skilled labor* were \$14.74. By October, 1920, they had increased 135% to \$34.59, and then declined 27.5% to \$25.08 from the latter period up to the beginning of 1922. In July, 1914, the average weekly earnings of *women* were \$7.14. By September, 1920, they had increased 156% to \$18.30. The decline from this peak up to January, 1922 amounted to 27.6%, the average wage at the beginning of 1922 being \$13.25. By

Foundry and Machine-Shop Products



(National Industrial Conference Board)

January, 1922, therefore, the weekly earnings for these three groups had increased respectively 70%, 70% and 86% over the July, 1914 levels.

Employment

Total employment in the establishments covered declined 45.4% from June, 1920 up to January, 1922. The percentages of decline for the three groups during this period were as follows: male common labor, 47.4%; male skilled labor, 44.2%, and women, 48.5%. Reductions in the number of employees have been severe throughout the entire period of the investigation. The largest decline in employment occurred in the first six months of 1921. The employment situation in the foundry and machine shop group reflects broadly the course of the general industrial depression. Indications point to the taking over by skilled labor of work formerly done by unskilled labor, and of a general return of women from industrial to domestic and other occupations.

The total number of employees in identical establishments declined 15% between July, 1914, and the beginning of 1922. The effect of the industrial depression is seen in this dropping off in employment. While the foundry and machine shop industry increased tremendously in activity between 1914 and the middle of 1920, the tremendous decline during the industrial depression period brought employment in the same establishments below the 1914 level.

Hours

In July, 1914, 55 hours constituted the *average nominal week*. Following a reduction of hours during the war period, there was a decline of 51.7 hours by June, 1920. July and August witnessed increases to more than 52 hours, but the closing months of 1920 showed a decline again, so that by January, 1921, the average nominal week had declined to 51.3. Considerable increases were noted in the succeeding five months, but the closing months of the year 1921 showed further declines, so that in December the average nominal week stood at 50.6 hours.

The *average hours of plant operation* declined from 53.2 hours in July, 1914 to 51.5 hours in June, 1920. Industrial depression began to take effect in December, 1920, and the following months. In April and June plant hours had shrunk to 42.4.

Classified Payroll Data—Foundries and Machine Shops

PERIOD	MALE UNSKILLED				MALE SKILLED				WOMEN			
	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings
One Week In												
July..	53,807	51.1	\$219	\$11.19	100	100	142,489	48.5	\$304	\$14.74	100	100
1914												
July..												
1920												
June..	102,134	50.8	.545	27.73	249	248	256,993	49.7	.685	34.05	225	231
July..	104,317	50.6	.544	27.55	248	246	258,020	49.8	.687	34.22	226	232
Aug..	105,213	50.7	.549	27.85	251	249	259,608	49.8	.690	34.35	227	233
Sept..	103,597	50.2	.553	27.76	253	248	262,865	48.0	.713	34.25	235	232
Oct..	99,432	49.9	.544	27.14	248	243	256,703	49.2	.702	34.59	231	235
Nov..	90,738	48.7	.534	26.01	244	232	247,042	47.9	.695	33.29	229	226
Dec..	83,197	47.4	.534	25.35	244	227	233,257	47.3	.697	32.93	229	223
1921												
Jan..	71,502	44.4	.510	22.64	233	202	206,815	44.6	.677	30.17	223	205
Feb..	68,464	43.4	.503	21.81	230	195	196,551	43.1	.673	29.03	221	197
Mar..	64,493	42.7	.496	21.15	226	189	185,660	42.0	.650	27.28	214	185
April..	60,667	42.2	.487	20.55	222	184	170,951	41.1	.632	25.93	208	176
May..	57,483	42.3	.482	20.39	220	182	158,620	41.8	.629	26.30	207	178
June..	54,256	42.3	.469	19.86	214	177	151,108	41.1	.614	25.24	202	171
July..	49,687	40.9	.452	18.46	206	165	138,571	40.4	.611	24.69	201	168
Aug..	49,117	42.0	.437	18.35	200	164	133,881	41.2	.596	24.57	196	167
Sept..	49,361	43.2	.430	18.57	196	166	133,694	41.5	.582	24.18	191	164
Oct..	50,978	44.9	.421	18.89	192	169	134,540	43.3	.571	24.73	188	168
Nov..	52,669	45.1	.414	18.69	189	167	139,993	43.5	.561	24.38	185	165
Dec..	53,692	46.0	.414	19.04	189	170	143,274	44.7	.561	25.08	185	170

The last six months of 1921, however, witnessed a revival, and in December the average hours of plant activity had risen to 46.4.

The *average actual week per wage earner* showed an increase from 49.2 hours in July, 1914, to 49.9 hours in June, 1920. The general high level of working hours was maintained till November, when the effect of the industrial depression began to be felt. The first six months of 1921 showed a continual decline in working hours to a level of 40.4 hours in July. During the last months of 1921, however, a revival took place so that in December an average of 45 hours was maintained. It will be noted that at this time working hours were still 4.9 hours below the level of June, 1920.

An analysis of the accompanying chart on hours shows that working hours have closely followed those of plant activity. It would seem, therefore, that management has adopted the policy of employing wage earners at practically the full time of plant operation, though large numbers were laid off permanently during the depression period.

Conclusion

The foundry and machine shop group, the largest industry covered in this investigation, may be taken as a barometer of general wage conditions. A careful comparison should be made with other industries in this report. The study of wages and hours in foundries and machine shops shows that:

1. Average *hourly* earnings of all wage earners on January 1, 1922 stood at \$.508 or 85% above the July, 1914 level of \$.275.
2. Average *weekly* earnings of all wage earners stood at \$22.87 or 69% above the July, 1914 level of \$13.51.
3. Wage reductions from the peak, of 22.1 in hourly earnings and 27.9% in weekly earnings, were somewhat above the general average in other industries. The large decline in weekly earnings may be accounted for by the slump in working hours.
4. Total employment declined 45.4% between June, 1920 and the beginning of 1922, showing the effect of the industrial depression.
5. During the last six months of 1921 there was some indication of a revival to more normal conditions shown by increased employment and lengthened working hours. At the close of 1921, however, working time was still 4.9 hours below the level of 49.9 hours reached in June, 1920, or a loss of 10%.

II

AUTOMOBILE MANUFACTURING

The wage investigation in the automobile industry covered establishments manufacturing and assembling complete automobiles, both passenger cars and motor trucks, and also plants producing automotive parts. The latter group, however, includes plants engaged only in manufacturing parts directly used by the automobile industry, and does not include jobbers, dealers or rubber tire manufacturers. Returns were received from 86 plants, 82 of which supplied information for the last wage investigation. The largest number of wage earners employed in any one month in the 82 plants was 95,739 in June, 1920. Approximately 24% of the wage earners reported by the 1919 Census of Manufactures for the automobile industry are covered in this report. The geographical distribution within 13 states is as follows:

California.....	2	Nebraska.....	1
Connecticut.....	2	New Jersey.....	3
Illinois.....	6	New York.....	11
Indiana.....	11	Ohio.....	9
Massachusetts.....	6	Pennsylvania.....	5
Michigan.....	22	Wisconsin.....	5
Missouri.....			3

Wages

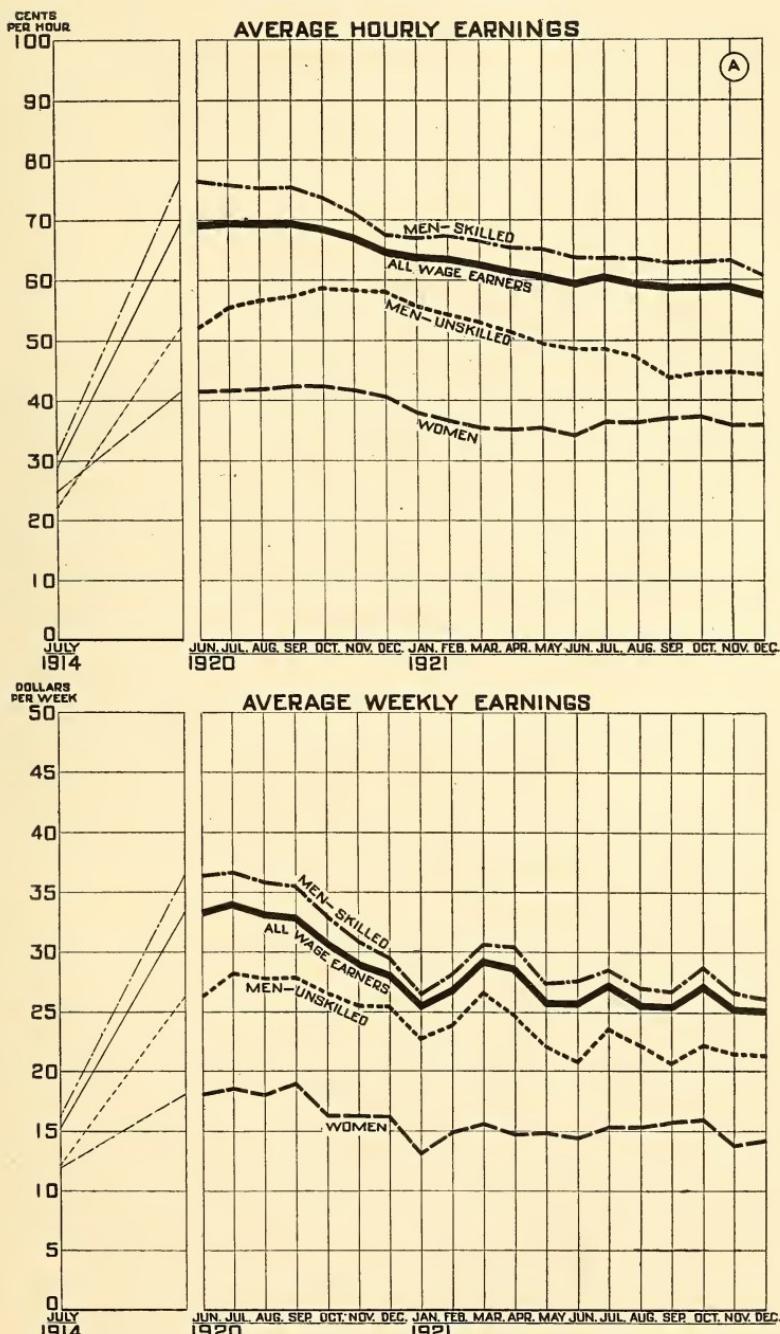
(a) Hourly earnings: In July, 1914, the average hourly earnings of all wage earners were \$.291. By July, 1920, they had increased 139% to \$.696. The decline from the latter period up to January, 1922 amounted to 17.8%, leaving the average hourly earnings \$.572, an increase of 97% over July, 1914. A general high level of hourly earnings was sustained through October, 1920, but in the next months they declined rapidly. The last six months of 1921 witnessed more gradual declines, except that in December there occurred a reduction of .018 cents per hour.

In July, 1914, the average hourly earnings of *male common labor* were \$.220. By October, 1920, they had reached \$.587, an increase of 167%, and then declined 24.9% to \$.441 from the latter period up to the beginning of 1922. In July, 1914, the average hourly earnings of *male skilled labor* were \$.312. By June, 1920, they had reached \$.765, a net increase of 145%, declining 20.7% to \$.607 from the latter period to the beginning of 1922. In July, 1914, the average hourly earnings of *women* were \$.249. In September, 1920, they had reached \$.423, an increase of 70%. The decline from this peak up to the beginning of 1922 was 15.1%, the average wage at the beginning of 1922 being \$.359. By January, 1922, therefore, the hourly earnings for these three groups had increased respectively 100%, 95% and 44% over the July, 1914 level.

(b) Weekly earnings: In July, 1914, the average weekly earnings of *all wage earners* were \$15.35. By July, 1920, they had reached \$34.05, an increase of 122%. The decline from this period up to the beginning of 1922 amounted to 26.5%, the average weekly earnings being \$25.04 at the latter period, a net increase of 63% over July, 1914. During the last half of 1920 there was a gradual decline of weekly earnings from the peak. Weekly earnings during 1921 fluctuated considerably, due to the variation in working hours. The last five months of 1921, except for October, showed a consistent level of over \$25.00 in average weekly earnings. Changes in the working week caused these changes in weekly earnings.

In July, 1914, the average weekly earnings of *male common labor* were \$12.15. By July, 1920, they had reached \$28.27, an increase of 133%. The decline from the latter period up to 1922 was 24.1% to \$21.47. In July, 1914, the average weekly earnings of *male skilled labor* were \$16.23. By July, 1920, they had increased 126% to \$36.75, declining 28.8% to \$26.18 from the latter period to the beginning of 1922. By June, 1914, the average weekly earnings of *women* were \$12.03. By September, 1920, they had increased 57% to \$18.93. The decline from this peak up to January, 1922 amounted to 25.2%, at which time average earnings were \$14.16. By January, 1922, therefore, the average weekly earnings of these three groups had increased respectively 77%, 61% and 18% over the July, 1914 levels.

Automobile Manufacturing



(National Industrial Conference Board)

Composite Payroll Data—Automobile Manufacturing

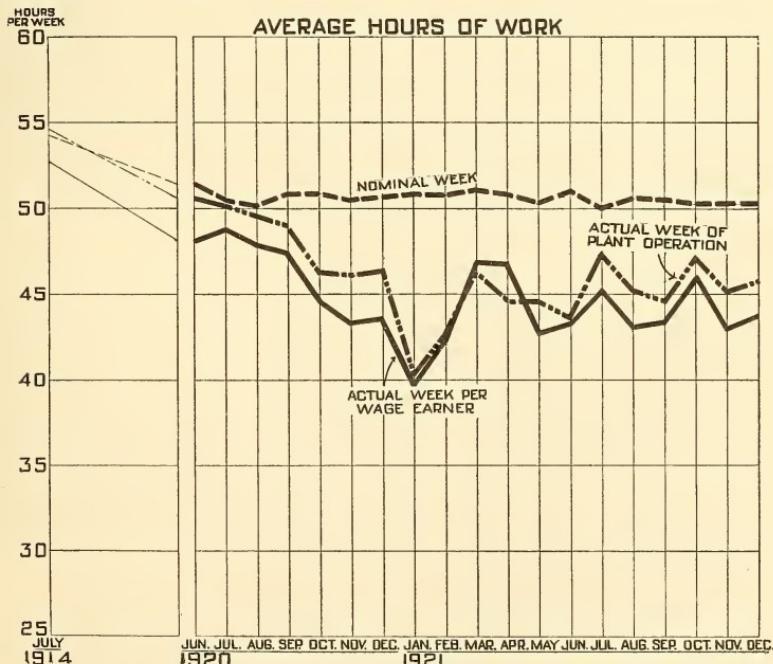
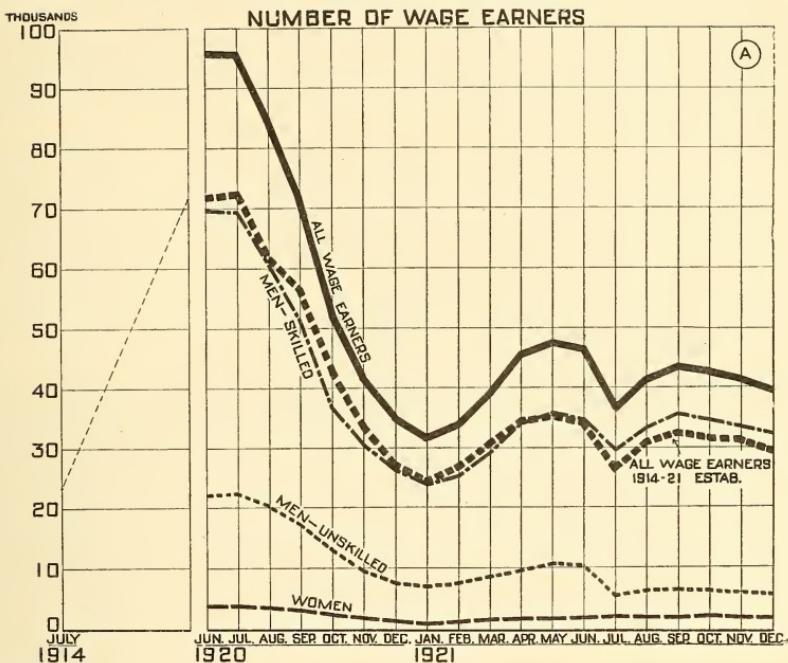
Period One Week In	Number Wage Earners Employed		Average Hours			Wages (All Wage Earners)			
	1914-22 Establ. (53 plants)	1920-22 Establ. (86 plants)	Av. Week Per Wage Earner	Av. Hours Plant Operation	Nomi- nal Week	Av. Hrly. Earn- ings	Av. Wkly. Earn- ings	Index Nos. Earnings	
								Hrly.	Wkly.
<i>1914</i>									
July....	23,138	.....	52.7	54.6	54.3	\$.291	\$15.35	100	100
<i>1920</i>									
June....	71,728	95,739	48.1	50.6	51.6	.692	33.27	238	217
July....	72,147	95,700	48.9	50.1	50.5	.696	34.05	239	222
Aug....	61,707	84,233	47.9	49.6	50.1	.694	33.27	238	217
Sept....	56,252	71,734	47.4	49.0	50.9	.694	32.95	238	215
Oct....	42,548	52,075	44.7	46.3	51.0	.688	30.74	236	200
Nov....	33,231	41,554	43.4	46.1	50.5	.670	29.12	230	190
Dec....	26,832	34,917	43.6	46.4	50.7	.647	28.19	222	184
<i>1921</i>									
Jan....	24,439	31,575	39.8	40.3	50.9	.638	25.41	219	166
Feb....	26,218	33,825	42.4	42.6	50.9	.634	26.86	218	175
March..	30,587	39,055	46.9	46.3	51.2	.625	29.32	215	191
April....	34,168	45,518	46.8	44.6	50.9	.613	28.71	211	187
May....	35,240	47,893	42.8	44.6	50.3	.605	25.89	208	169
June....	34,155	46,791	43.3	43.6	51.1	.594	25.76	204	168
July*....	26,135	36,952	45.2	47.4	50.0	.602	27.20	207	177
Aug....	30,929	41,322	43.1	45.2	50.7	.596	25.69	205	167
Sept....	32,554	43,676	43.4	44.6	50.6	.588	25.51	202	166
Oct....	31,686	42,802	46.0	47.1	50.3	.590	27.16	203	177
Nov....	31,158	41,422	43.0	45.1	50.3	.590	25.35	203	165
Dec....	29,472	39,365	43.8	45.7	50.3	.572	25.04	197	163

*See Introduction, p. 2.

Employment

Total employment in the establishments covered declined 58.9% from June, 1920 up to the beginning of 1922. The percentages of decline for the three groups during this period were as follows: male common labor, 73.8%; male skilled labor, 53.9%; women, 62.7%. The great decline in employment in the automobile industry may be traced directly to the industrial depression. There was a rapid decline up to the beginning of 1921, and the year 1921 was characterized by variations due to the fluctuation of general economic conditions. It will be noted that in the classified groups common labor and women suffered more than skilled labor in employment reductions.

Automobile Manufacturing



(National Industrial Conference Board)

Employment in identical establishments between July, 1914 and the end of 1921 increased 27.4%. The expansion of the automobile industry between 1914 and 1920 prevented employment during the depression period from dropping to the level of 1914.

Hours

In July, 1914, 54.3 hours constituted the *average nominal week*. By June, 1920, the nominal week had declined to 51.6 hours and the general level of slightly more than 50 hours was maintained up to January, 1922.

The *average hours of plant operation* declined from 54.6 hours in July, 1914 to 50.6 hours in June, 1920. A gradual decline occurred through September, 1920. In January, 1921, the low point of 40.3 hours was reached. An increase to 46.3 hours occurred in March, followed again by a decline in the next three months, with another increase in July. Fluctuations marked the entire course of plant activity during 1921.

The *average actual week per wage earner* showed a decline from 52.7 hours in July, 1914 to 48.1 hours in July, 1920. There was a decline to 39.8 hours in January, 1921. The year 1921 witnessed various fluctuations in working hours, there having been several peak and depression periods during the year. In December, 1921, working hours were at practically the same level as in December, 1920.

Conclusion

The study of wages and hours in automobile manufacturing shows that:

1. Average *hourly* earnings of all wage earners on January 1, 1922 stood at \$.572, or 97% above the July, 1914 level of \$.291.
2. Average *weekly* earnings of all wage earners on January 1, 1922 stood at \$25.04, or 63% above the July, 1914 level of \$15.35.
3. The decline of 17.8% from the peak in hourly earnings was on the general level with the decline in most basic industries, while the decline of 26.5% in weekly earnings was somewhat above

Classified Payroll Data—Automobile Manufacturing

PERIOD	MALE UNSKILLED				MALE SKILLED				WOMEN									
	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings						
				Hourly	Weekly	Hourly	Weekly	Hourly	Weekly	Hourly	Weekly	Hourly						
1914 July ..	4,578	55.4	\$220	\$12.15	100	100	18.154	52.1	\$16.23	100	100	406	48.3	\$249	\$12.03	100	100	
1920																		
June ..	22,058	50.5	.521	26.31	237	217	69,749	47.5	.765	36.34	245	224	3,932	43.7	.413	18.02	166	150
July ..	22,321	50.8	.556	28.27	253	233	69,570	48.6	.757	36.75	243	226	3,809	44.7	.415	18.58	167	154
Aug ..	20,012	49.0	.566	27.78	257	229	60,892	47.8	.751	35.91	241	221	3,329	43.2	.417	18.01	167	150
Sept..	17,462	48.6	.573	27.88	260	229	51,279	47.2	.752	35.49	241	219	2,993	44.8	.423	18.93	170	157
Oct..	13,023	45.3	.587	26.57	267	219	36,879	44.9	.737	33.06	236	204	2,173	38.6	.421	16.27	169	135
Nov..	9,784	43.7	.584	25.54	265	210	30,174	43.6	.710	30.96	228	191	1,596	38.9	.417	16.20	167	135
Dec ..	7,698	43.9	.581	25.49	264	210	26,184	43.7	.675	29.46	216	182	1,035	39.9	.405	16.18	163	134
1921																		
Jan ..	7,031	41.0	.557	22.84	253	188	23,841	39.6	.670	26.53	215	163	703	34.6	.379	13.10	152	109
Feb ..	7,530	44.0	.541	23.82	246	196	25,382	42.0	.672	28.19	215	174	913	40.5	.368	14.90	148	124
Mar ..	8,552	50.0	.530	26.48	241	218	29,295	46.1	.666	30.72	213	189	1,208	43.8	.355	15.53	143	129
April	9,930	48.2	.513	24.72	233	203	34,107	46.7	.653	30.48	209	188	1,481	42.3	.350	14.79	141	123
May ..	10,462	44.6	.496	22.09	225	182	35,822	42.3	.651	27.49	209	169	1,609	42.2	.354	14.93	142	124
June ..	10,363	42.7	.488	20.82	222	171	34,895	43.6	.637	27.72	204	171	1,533	42.6	.342	14.56	137	121
July *	5,469	48.2	.488	23.50	222	193	29,859	44.8	.637	28.53	204	176	1,624	41.9	.363	15.20	146	126
Aug ..	6,280	46.8	.473	22.17	215	182	33,241	42.5	.634	26.93	203	166	1,801	42.1	.363	15.27	146	127
Sept..	6,472	47.1	.439	20.71	200	170	35,407	42.7	.629	26.88	202	166	1,797	42.6	.370	15.74	149	131
Oct ..	6,343	49.6	.447	22.14	203	182	34,633	45.5	.629	28.67	202	177	1,826	42.7	.374	15.98	150	133
Nov ..	6,098	48.2	.448	21.58	204	178	33,646	42.2	.630	26.61	202	164	1,678	38.7	.359	13.89	144	115
Dec ..	5,774	48.7	.441	21.47	200	177	32,124	43.1	.607	26.18	195	161	1,467	39.4	.359	14.16	144	118

*See Introduction, p. 2.

the general average. The latter decline was due chiefly to a slump in working hours.

4. Employment declined 58.9% from June, 1920 to January 1922, showing the effect of the economic depression.

5. The year 1921 was marked by considerable fluctuations as to employment and working hours, though a return to more stable conditions was indicated at the close of 1921.

III

AGRICULTURAL IMPLEMENT MANUFACTURING

Wage data in this industry cover establishments manufacturing plows, cultivators, tractors, harvesting implements, etc. They include, also, several plants where, in addition to agricultural implements, other products not distinctly agricultural, such as windmills, carriages and wagons, are made. The classification practically follows that of the United States Census of Manufactures. Returns were received from 121 plants, 117 of which furnished information for the last wage investigation. The largest number of wage earners employed in any one month was 45,430, in September, 1920. Over 78% of the wage earners reported by the 1919 Census of Manufactures for the agricultural implement industry are covered in this report. The geographical distribution within 20 states is as follows:

Arkansas.....	1	Minnesota.....	5
California.....	5	Missouri.....	4
Georgia.....	3	Nebraska.....	2
Illinois.....	25	New Jersey.....	1
Indiana.....	8	New York.....	14
Iowa.....	11	Ohio.....	11
Kansas.....	1	Pennsylvania.....	5
Kentucky.....	3	Tennessee.....	1
Louisiana.....	1	Virginia.....	1
Michigan.....	2	Wisconsin.....	17

Wages

(a) *Hourly earnings:* In July, 1914, the average hourly earnings of *all wage earners* were \$.262. By September, 1920, they had increased 164% to \$.692. The decline from the latter period up to January, 1922 was 31.5%, leaving the average hourly earnings \$.474, an increase of 81% over July, 1914. The general high level of hourly earnings was sustained through November, 1920. Beginning in December, 1920, and continuing through to the spring of 1921, severe reductions in hourly earnings took place. The year 1921 was marked by severe

declines, there having been a total drop of \$.194 cents per hour during the year.

In July, 1914 the average hourly earnings of *male common labor* were \$.220. By September, 1920, they had increased 167% to \$.587. The decline from the latter period up to January, 1922 was 30% to \$.411. In July, 1914, the average hourly earnings of *male skilled labor* were \$.283. By September, 1920, they had risen 162% to \$.741, declining 32.4% to \$.501 from the latter period up to the beginning of 1922. In July, 1914, the average hourly earnings of *women* were \$.167. By September, 1920, they had risen 192% to \$.488. The decline from this peak up to January, 1922 amounted to 30.7%, the average hourly earnings at the beginning of 1922 being \$.338. By January, 1922, therefore, the average hourly earnings of these three groups had increased respectively 87%, 77% and 102% over July, 1914 levels.

(b) *Weekly earnings:* The average weekly earnings of *all wage earners* in July, 1914 were \$13.43. By September, 1920, they had increased 152% to \$33.85. The decline from the latter period to January, 1922 was 38.2%, at which time the average weekly earnings were \$20.93, a net increase of 56% over July, 1914. The general high level of weekly earnings was maintained through November, 1920. Beginning in January, 1921, and continuing for the next six months, severe declines occurred, due to reduction in hourly rates and working hours. The last six months of 1921 showed a fairly sustained level of approximately \$20.50. While hourly wages continued downward, working hours increased, which helped to maintain weekly earnings at a more or less stationary level.

In July, 1914, the average weekly earnings of *male common labor* were \$11.34. By October, 1920, they had increased 160% to \$29.53. From the latter period up to January, 1922, they declined 41.8% to \$17.18. In July, 1914, the average weekly earnings of *male skilled labor* were \$14.49. By September, 1920, they reached \$36.04, an increase of 149%, and then declined 37.4% to \$22.56 from the latter period up to the beginning of 1922. In July, 1914, the average weekly earnings of *women* were \$8.14. By September, 1920, they had increased 189% to \$23.51. The decline from this peak up to January, 1922, amounted to 35.5%, the average wage at the beginning of

Agricultural Implement Manufacturing

CENTS
PER HOUR

100

90

80

70

60

50

40

30

20

10

0

JULY
1914

AVERAGE HOURLY EARNINGS

(A.I.)

MEN-SKILLED

ALL WAGE EARNERS

MEN-UNSKILLED

WOMEN

JUN. JUL. AUG. SEP. OCT. NOV. DEC. JAN. FEB. MAR. APR. MAY JUN. JUL. AUG. SEP. OCT. NOV. DEC.

1920 1921

DOLLARS
PER WEEK

50

45

40

35

30

25

20

15

10

5

0

JULY
1914

AVERAGE WEEKLY EARNINGS

MEN-SKILLED

ALL WAGE EARNERS

MEN-UNSKILLED

WOMEN

JUN. JUL. AUG. SEP. OCT. NOV. DEC. JAN. FEB. MAR. APR. MAY JUN. JUL. AUG. SEP. OCT. NOV. DEC.

1920 1921

(National Industrial Conference Board)

*Composite Payroll Data—Agricultural Implement
Manufacturing*

Period	Number Wage Earners Employed		Average Hours			Wages (All Wage Earners)				
	1914-22 Establ. (93 plants)	1920-22 Establ. (121 plants)	Av. Week Per Wage Earner	Av. Hours Plant Operation	Nominal Week	Av. Hrly. Earnings	Av. Wkly. Earnings	Index Nos. Earnings	Hrly.	Wkly.
<i>1914</i>										
July....	29,692	.....	51.3	51.9	55.4	\$.262	\$13.43	100	100	
<i>1920</i>										
June....	40,924	44,751	49.9	50.8	50.0	.672	33.49	256	249	
July....	40,576	44,643	49.2	50.5	49.9	.677	33.30	258	248	
Aug....	41,120	45,156	49.3	50.7	49.9	.686	33.81	262	252	
Sept....	41,472	45,430	48.9	50.2	50.2	.692	33.85	264	252	
Oct....	41,073	44,908	49.1	50.2	50.2	.679	33.38	259	249	
Nov....	41,045	44,453	48.8	49.5	50.8	.680	33.18	260	247	
Dec....	37,099	39,419	45.6	46.4	50.5	.668	30.46	255	227	
<i>1921</i>										
Jan....	34,717	37,372	43.0	44.3	51.0	.650	27.98	248	208	
Feb....	31,758	34,406	40.7	40.2	50.7	.633	25.77	242	192	
March..	29,075	31,557	40.8	41.2	50.5	.627	25.57	239	190	
April...	23,880	25,568	40.1	40.0	51.0	.558	22.35	213	166	
May....	17,510	18,882	39.0	38.4	51.3	.541	21.11	206	157	
June....	13,973	15,194	38.9	38.8	51.5	.532	20.69	203	154	
July*....	10,875	11,478	38.4	39.6	50.9	.535	20.54	204	153	
Aug....	10,748	11,377	39.3	40.2	50.7	.537	21.08	205	157	
Sept....	9,962	10,651	40.4	40.7	50.2	.509	20.52	194	153	
Oct....	9,706	10,417	40.6	40.4	50.5	.501	20.36	191	152	
Nov....	11,177	11,841	43.3	43.8	50.5	.473	20.45	181	152	
Dec....	13,739	14,516	44.2	44.6	50.5	.474	20.93	181	156	

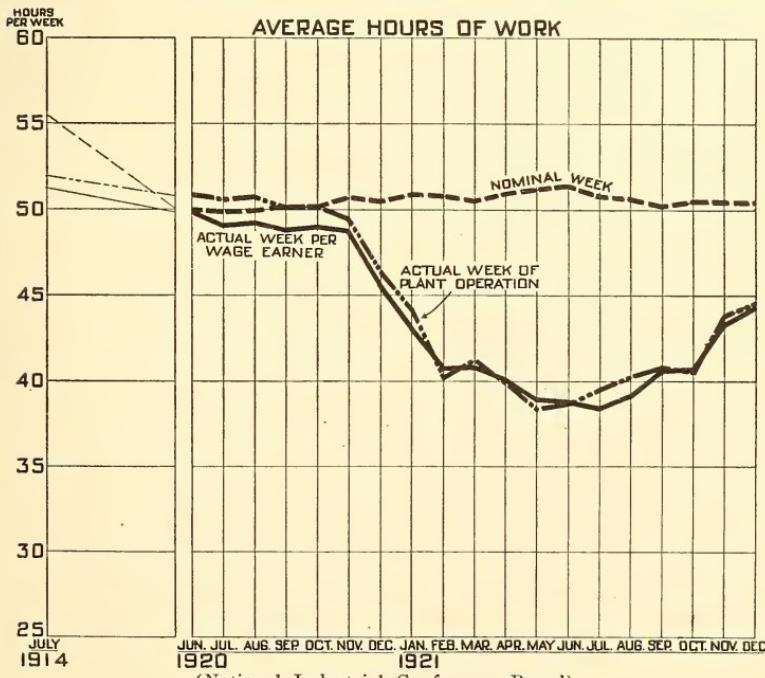
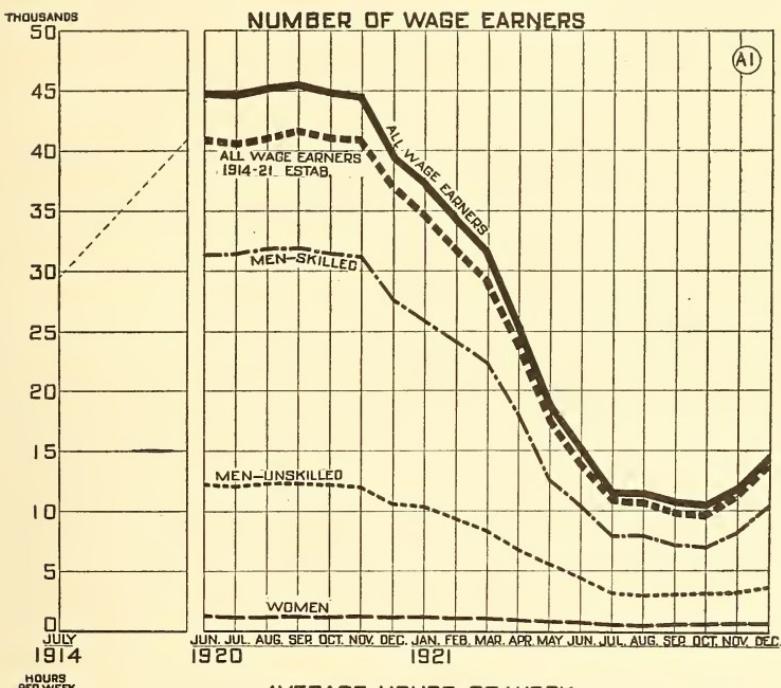
*See Introduction, p. 2.

1922 being \$15.16. By January, 1922, therefore, the weekly earnings for these three groups had increased respectively 51%, 56% and 86% over the 1914 levels.

Employment

Total employment in the establishments covered declined 67.6% from June, 1920 up to the beginning of 1922. The percentages of decline for the three groups during this period were as follows: male common labor, 70%; male skilled labor, 67.1%, and women, 55.7%. The decline in employment was greater than that in any other basic industry covered by the report. Extensive reductions took place down through Oc-

Agricultural Implement Manufacturing



(National Industrial Conference Board)

tuber, 1921. In November, and particularly in December, increases occurred showing a trend toward resumption of productive activity.

Hours

In July, 1914, 55.4 hours constituted the *average nominal week*. In June, 1920, the hours had declined to 50, and this general level was maintained to the close of 1920. The first six months of 1921 showed slight increases to between 51 and 51½ hours, followed by a decline in the last six months of 1921 to approximately 50½ hours.

The *average hours of plant operation* declined from 51.9 hours in July, 1914, to 50.8 hours in June, 1920. The general level of plant activity continued through November, 1920. Beginning in December, there was a continued decline in plant activity down through June, 1921. Beginning in July, a perceptible increase took place, so that by December, 1921, the average hours of plant operation stood at 44.6.

The *average actual week per wage earner* showed a decline from 51.3 hours in July, 1914 to 49.9 hours in June, 1920. The general trend of working hours closely followed that of plant activity. The trough or depression period was reached in July, 1921. The succeeding months, however, witnessed a strong revival of working hours so that an increase to 44.2 hours was reached in December, 1921. The resumption of working hours has materially helped maintain weekly earnings at a fairly stationary level.

Conclusion

The agricultural implement industry was one of the basic industries most directly affected during the depression period. The deflation in the prices of farm products resulted in a curtailment of the buying power and credit of farmers, and hence stagnation occurred in the agricultural implement market. In addition, the stoppage of foreign credits and orders largely cut off exportation. Increased working hours and employment in the last six months of 1921, however, point toward a revival. The study of wages and hours in the agricultural implement industry shows that:

Classified Payroll Data—Agricultural Implement Manufacturing

PERIOD	MALE UNSKILLED				MALE SKILLED				WOMEN				
	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Av. Weekly Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Av. Weekly Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Av. Weekly Earnings	
1914 July ..	7,984	51.6	\$220	\$11.34	100	100	20,697	51.2	\$283	\$14.49	100	100	100
1920 June ..	12,230	50.9	.564	.28.67	256	253	31,334	49.5	.722	.35.78	255	.247	.1,187
July ..	12,081	50.0	.574	.28.73	261	253	31,426	48.9	.724	.35.43	256	.245	.1,136
Aug ..	12,282	50.4	.585	.29.46	266	260	31,730	48.9	.734	.35.89	259	.248	.1,144
Sept ..	12,352	49.7	.587	.29.19	267	257	31,882	48.7	.741	.36.04	262	.249	.1,196
Oct ..	12,279	51.0	.579	.29.53	263	260	31,409	48.4	.728	.35.27	257	.243	.1,220
Nov ..	12,042	49.0	.576	.28.23	262	249	31,176	48.8	.728	.35.51	257	.245	.1,235
Dec ..	10,598	47.1	.570	.26.84	259	237	27,692	45.0	.716	.32.19	253	.222	.1,129
1921 Jan ..	10,367	43.9	.559	.24.53	254	216	25,843	42.6	.697	.29.70	246	.205	.1,162
Feb ..	9,332	41.0	.543	.22.26	247	196	24,011	40.5	.676	.27.39	239	.189	.1,063
Mar ..	8,310	40.5	.536	.21.70	244	191	22,225	40.7	.671	.27.23	237	.188	.1,022
April ..	6,790	39.6	.477	.18.85	217	166	17,930	40.1	.596	.23.92	211	.165	.848
May ..	5,489	39.0	.473	.18.46	215	163	12,679	38.7	.581	.22.46	205	.155	.714
June ..	4,317	39.1	.462	.18.06	210	159	10,222	38.7	.572	.22.14	202	.153	.655
July *	3,114	38.1	.443	.16.89	201	149	7,947	38.4	.579	.22.22	205	.153	.417
Aug ..	2,939	37.0	.448	.16.57	204	146	7,996	40.2	.575	.23.13	203	.160	.442
Sept ..	2,997	38.9	.431	.16.78	196	148	7,162	41.0	.549	.22.47	194	.155	.492
Oct ..	3,012	39.2	.423	.16.61	192	146	6,925	41.2	.542	.22.35	192	.154	.480
Nov ..	3,254	41.5	.413	.17.13	188	151	8,084	43.9	.505	.22.14	178	.153	.503
Dec ..	3,675	41.9	.411	.17.18	187	151	10,315	45.0	.501	.22.56	177	.156	.526

*See Introduction, p. 2.

1. Average hourly earnings of all wage earners on January 1, 1922 stood at \$.474, or 81% above the 1914 level of \$.262.
2. Average weekly earnings of all wage earners stood at \$20.93, or 56% above the July, 1914 level of \$13.43.
3. The wage reductions of 31.5% from the peak in hourly earnings, and of 38.2% in weekly earnings, were greater than the declines in other basic industries.
4. Employment declined 67.6% from June, 1920, to the beginning of 1922, reflecting the depression in the industry.

IV

ELECTRICAL APPARATUS MANUFACTURING

The data for this industry cover establishments engaged in the manufacturing of electrical apparatus, electrical machinery and electrical appliances. So far as possible, the study has been restricted to manufacturers of electrical equipment and supplies, not including manufacturers who assemble this class of material with other products. The survey covers no establishments engaged in jobbing in either wholesale or retail trade. The data includes 91 of the 107 plants covered in the last wage investigation. The largest number of wage earners employed in any one month in the 91 establishments was 87,179 in October, 1920. Thus approximately 36% of the wage earners reported by the 1919 Census of Manufactures for the electrical machinery and apparatus industry are covered in this report. The proportion actually covered is even greater, as the Census includes establishments engaged in miscellaneous manufacturing that have not been included in this investigation. The geographical distribution within 18 states is as follows:

California.....	3	Missouri.....	1
Connecticut.....	7	New Hampshire.....	1
Illinois.....	10	New Jersey.....	5
Indiana.....	3	New York.....	9
Kentucky.....	1	Ohio.....	13
Maryland.....	1	Pennsylvania.....	13
Massachusetts.....	12	Tennessee.....	1
Michigan.....	5	Washington.....	1
Minnesota.....	1	Wisconsin.....	4

Wages

(a) Hourly earnings: In July, 1914, average hourly earnings of *all wage earners* were \$.27. By October, 1920, they had risen 134% to \$.632. The decline was 19.3% from the latter period up to January, 1922, at which time the average hourly earnings were \$.510, an increase of 89% over July, 1914. The peak was reached in the fall of 1920, followed by a gradual decline through March, 1921, while increases occurred during

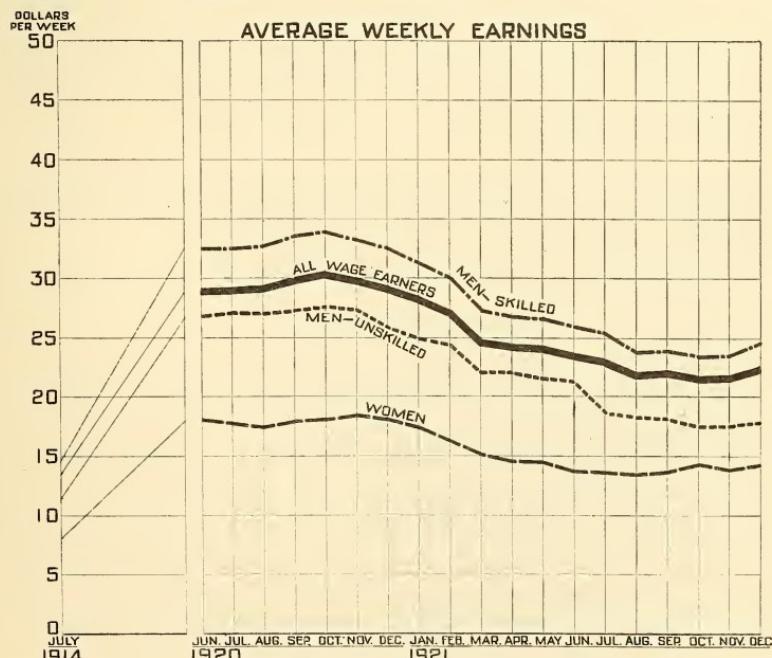
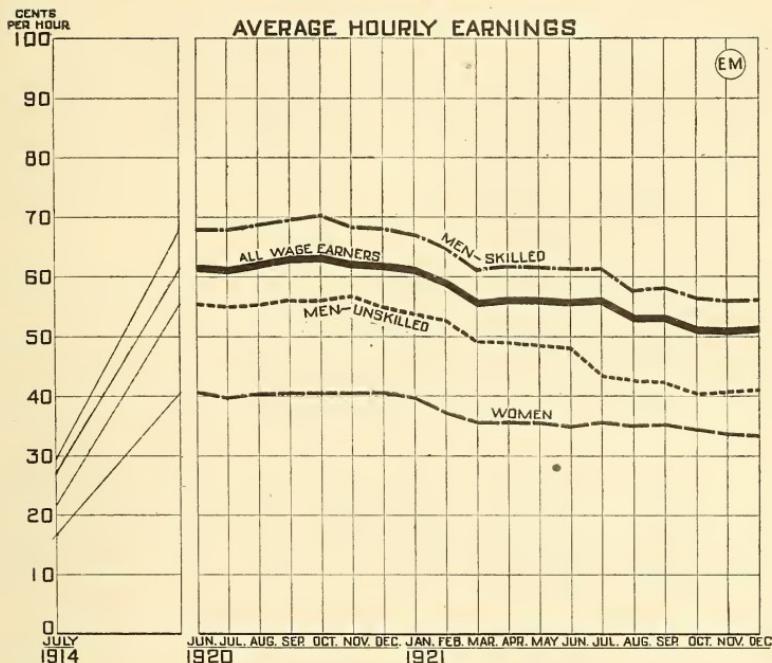
the next few months. But in August, 1921 a further wage reduction occurred, of approximately 3 cents per hour, followed again by a further reduction in October, 1921, of approximately 2 cents an hour. The general tendency in the year 1921 was one of wage reductions.

In July, 1914, the average hourly earnings of *male common labor* were \$.221. By November, 1920 they had increased 157% to \$.568. The decline from the latter period up to January, 1922 was 28% to \$.409. In July, 1914, the average hourly earnings of *male skilled labor* were \$.296. By October, 1920, they had risen 137% to \$.701, and then declined 20% to \$.561 from the latter period up to the beginning of 1922. In July, 1914 the average hourly earnings of *women* were \$.167. In June, 1920, they had risen 143% to \$.406. The decline from this peak up to January, 1922 amounted to 18%, the average earnings at the beginning of 1922 being \$.333. By January, 1922, therefore, the average hourly earnings of these three groups had increased respectively 85%, 90% and 99% over the July, 1914 levels.

(b) Weekly earnings: The average weekly earnings of *all wage earners* in July, 1914, were \$13.44. By October, 1920, they had increased 125% to \$30.25. The decline from the latter period up to January, 1922 was 26.3%, at which time the average weekly earnings were \$22.30, a net increase of 66% over July, 1914. A general high level of weekly earnings was maintained through 1920. Beginning in March, 1922, severe reductions in weekly earnings occurred, due to reductions in both hourly rates and working hours. Weekly earnings continued to decrease throughout the rest of 1921, due to the same causes.

In July, 1914, the average weekly earnings of *male common labor* were \$11.40. By October, 1920 they had increased 142% to \$27.62. From the latter period up to January, 1922, they declined 35.7% to \$17.76. In July, 1914, the average hourly earnings of *male skilled labor* were \$14.67. In October, 1920, they had reached \$33.95, an increase of 131%, declining 27.3% to \$24.67 from the latter period up to the beginning of 1922. In July, 1914, the average weekly earnings of *women* were \$8.18. In November, 1920, they had increased 124% to \$18.35. The decline from this peak up to January, 1922 amounted to 22.5%, the average wage at the beginning of 1922 being \$14.22. By January, 1922, therefore, the weekly earnings for these three

Electrical Apparatus Manufacturing



(National Industrial Conference Board)

Composite Payroll Data—Electrical Apparatus Manufacturing

Period	Number Wage Earners Employed		Average Hours			Wages (All Wage Earners)			
	1914-22 Establ. (63 plants)	1920-22 Establ. (91 plants)	Av. Week Per Wage Earner	Av. Hours Plant Oper- ation	Nomi- nal Week	Av. Hrly. Earn- ings	Av. Wkly. Earn- ings	Index Nos. Earnings	
One Week In									
1914									
July....	40,983	.....	49.7	53.9	54.3	\$.270	\$13.44	100	100
1920									
June....	68,091	84,579	47.2	48.8	49.0	.613	28.93	227	215
July....	68,731	85,632	47.4	48.7	49.1	.612	28.97	227	216
Aug....	67,650	85,111	46.9	48.8	48.7	.620	29.11	230	217
Sept....	68,174	85,928	47.6	49.2	49.0	.628	29.86	233	222
Oct....	69,218	87,179	47.9	49.2	49.0	.632	30.25	234	225
Nov....	68,978	85,928	47.9	48.8	48.9	.622	29.80	230	222
Dec....	67,602	83,235	47.1	48.3	49.0	.619	29.17	229	217
1921									
Jan....	64,024	77,554	46.1	47.9	48.8	.612	28.21	227	210
Feb....	57,030	69,274	45.9	47.5	48.7	.590	27.10	219	202
Mar....	53,725	65,137	44.3	47.4	48.7	.557	24.68	206	184
April...	49,317	60,160	43.1	47.5	48.7	.561	24.22	208	180
May....	46,563	56,865	43.0	47.1	48.8	.561	24.13	208	180
June....	44,048	53,990	42.1	47.1	48.5	.559	23.53	207	175
July*...	41,655	49,880	41.1	46.8	48.5	.560	23.03	207	171
Aug....	37,850	47,885	40.9	45.1	48.2	.531	21.73	197	162
Sept....	37,153	45,740	41.0	45.9	48.4	.532	21.82	197	162
Oct....	38,020	45,435	41.7	46.7	48.5	.513	21.41	190	159
Nov....	37,525	46,571	42.1	46.6	48.6	.509	21.44	189	160
Dec....	38,312	47,286	43.8	46.4	48.5	.510	22.30	189	166

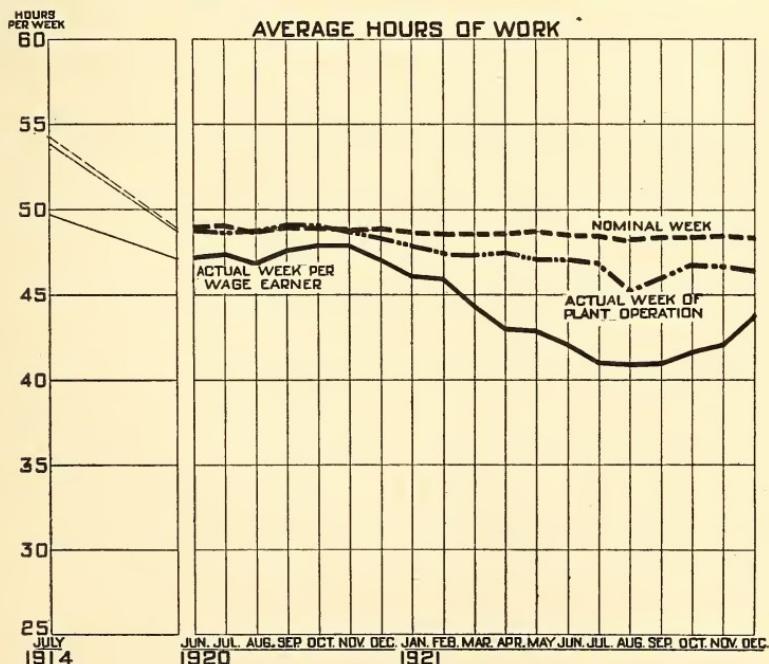
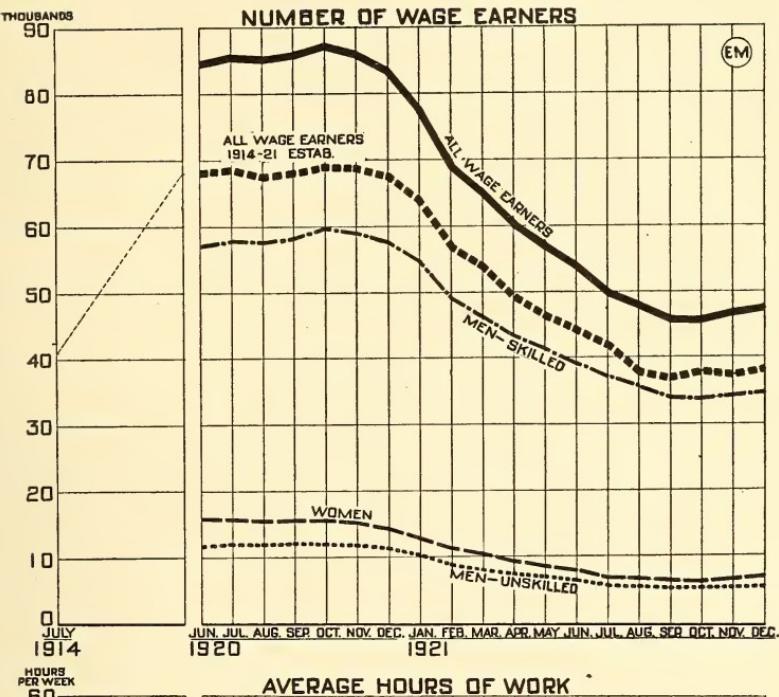
*See Introduction, p. 2.

groups had increased respectively 56%, 68% and 74% over the July, 1914 levels.

Employment

Total employment in the establishments covered declined 44.1% from June, 1920 up to the beginning of 1922. The decline in the three groups during this period was as follows: male common labor 52.4%, male skilled labor 39.4%, and women 54.8%. The tendency during the depression period was to lay off common labor and women rather than skilled help. Employment underwent a steady decrease from the peak through October, 1921, while increases occurred in November and December, 1921.

Electrical Apparatus Manufacturing



(National Industrial Conference Board)

Employment in identical establishments declined 6.5% between July, 1914 and the end of the year 1922.

The decline in the number of women employed indicates a general movement of women to return to homes and other occupations from wartime employment. While the electrical manufacturing industry expanded tremendously between July, 1914 and the general peak of 1920, this large increase was practically offset by the decline during the period of industrial depression. The movement of the industry shows large reductions in working forces, accompanied by part time operations, rather than severe reductions in wages.

Hours

In July, 1914, 54.3 hours constituted the *average nominal week*. Following the general reduction in working hours during the war period, there was a decline to 49 hours in June, 1920. A general level was maintained between 48 and 49 hours up to January, 1922.

The *average hours of plant operation* in July, 1914 were 53.9. The general level of approximately 49 hours was maintained during 1920, while a decline occurred at the beginning of 1921 which continued through August. The last months showed a slight improvement.

The *average actual week per wage earner* showed a decline from 49.7 hours in July, 1914 to 47.2 hours in June, 1920. The trend from June, 1920 closely followed that of plant activity. The depression period was reached in August, 1921, when the average actual week was reduced to 40.9 hours. The closing months of 1921, showed a continual increase in working hours.

Conclusion

The study of wages and hours in electrical manufacturing shows that:

1. Average *hourly* earnings of all wage earners on January 1, 1922 stood at \$.51, or 89% above the July, 1914 level of \$.27.
2. Average *weekly* earnings of all wage earners on January 1, 1922 stood at \$22.30, or 66% above the July, 1914 level of \$13.44.
3. The decline in hourly earnings from the peak was much slower than in many basic industries, though part-time operations forced considerable reductions in weekly earnings.

Classified Payroll Data—Electrical Apparatus Manufacturing

PERIOD	MALE UNSKILLED						MALE SKILLED						WOMEN						
	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings															
1914	5,402	51.6	\$.221	\$11.40	100	100	30,562	49.5	\$.296	\$14.67	100	100	5,019	48.9	\$.167	\$8.18	100	100	
1920	June..	11,683	48.1	.554	26.69	251	234	57,171	47.9	.677	32.42	229	221	15,725	44.2	.406	17.95	243	219
	July..	12,007	49.1	.551	27.05	249	237	57,814	47.8	.679	32.47	229	221	15,811	44.3	.398	17.62	238	215
	Aug..	11,864	48.6	.554	26.92	251	236	57,643	47.6	.688	32.73	232	223	15,604	43.1	.404	17.39	242	213
	Sept..	12,037	48.6	.561	27.26	254	239	58,387	48.3	.695	33.57	235	229	15,504	44.1	.406	17.90	243	219
	Oct...	11,875	49.3	.561	27.62	254	242	59,765	48.4	.701	33.95	237	231	15,539	44.6	.405	18.06	243	221
	Nov..	11,729	48.0	.568	27.29	257	239	59,133	48.6	.683	33.21	231	226	15,066	45.2	.406	18.35	243	224
	Dec..	11,291	46.8	.552	25.87	250	227	57,689	47.8	.681	32.56	230	222	14,255	44.6	.405	18.05	243	221
1921	Jan...	10,085	46.5	.537	24.98	243	219	54,789	46.6	.672	31.30	227	213	12,680	43.6	.399	17.40	239	213
	Feb...	8,974	46.4	.528	24.47	239	215	49,108	46.4	.648	30.04	219	205	11,192	43.6	.373	16.28	223	199
	Mar...	8,272	44.9	.491	22.02	222	193	46,592	44.7	.611	27.30	206	186	10,373	42.3	.357	15.09	214	184
	April.	7,451	44.7	.491	21.93	222	192	43,239	43.4	.616	26.74	208	182	9,470	40.7	.356	14.51	213	177
	May...	7,005	44.1	.485	21.40	219	188	41,201	43.3	.615	26.63	208	182	8,659	40.8	.355	14.49	213	177
	June..	6,548	43.8	.482	21.11	218	185	39,317	42.4	.612	25.94	207	177	8,125	39.5	.350	13.79	210	169
	July*	5,738	43.0	.433	18.60	196	163	37,313	41.4	.614	25.42	207	173	6,829	38.3	.357	13.67	214	167
	Aug..	5,522	42.8	.425	18.22	192	160	35,627	41.2	.579	23.84	196	163	6,736	38.2	.352	13.44	211	164
	Sept..	5,363	42.8	.422	18.05	191	158	33,964	41.2	.582	23.95	197	163	6,413	38.8	.352	13.68	211	167
	Oct...	5,381	43.2	.403	17.44	182	153	33,695	41.6	.563	23.40	190	160	6,359	41.2	.345	14.23	207	174
	Nov..	5,492	43.2	.407	17.54	184	154	34,338	42.1	.559	23.54	189	160	6,741	41.4	.336	13.94	201	170
	Dec..	5,561	43.4	.409	17.76	185	156	34,620	44.1	.561	24.67	190	168	7,105	42.8	.333	14.22	199	174

*See Introduction p. 2.

4. The trend of the nominal week was dominated by the decline in employment and in plant activity.
5. The total employment declined 44.1% from the peak in October, 1920 to the end of 1922.
6. From the beginning of 1921 there was a continued depression in plant activity, the level being 46.4 hours at the close of 1921. In December, 1921 there was an indication of an increase in employment and working hours.

V

IRON AND STEEL MANUFACTURING

Wage data for the iron and steel industry cover blast furnaces and rolling mills, engaged in the manufacture of pig iron, wrought iron and rolled steel products. Schedules were received from 44 plants, 43 of which supplied information for the last wage investigation. The largest number of wage earners employed in any one month was 35,807 in October, 1920. The geographical distribution within eight states is as follows:

Illinois.....	3	New York.....	1
Indiana.....	1	Ohio.....	10
Michigan.....	2	Pennsylvania.....	25
New Jersey.....	1	Tennessee.....	1

In iron and steel plants, the varying hours of work, irregular shifts, the mixture of piece, day and tonnage work, make the compilation of wage data showing actual hours or hourly earnings exceedingly difficult. For 36 of the 44 plants, sufficiently accurate information covering hours was received, and the compilation of the actual hours and hourly and weekly earnings has been made for these plants. Eight other plants furnished information covering only weekly earnings, and this material has been compiled in a separate section. In the general summary chapter presenting a composite of all industries, the smaller group of 36 plants only has been used.

An additional section has also been included giving a discussion of weekly earnings covering several large plants which could not give information for earlier than June, 1921. As the size and coverage of these plants is representative, they have been included in this chapter, but not in the summary or composite tables.

Wages

(a) *Hourly earnings:* In July, 1914, the average hourly earnings of *all wage earners* in 36 plants were \$.26. By November, 1920, they had increased 180% to \$.727. The decline

from the latter period up to January, 1922, amounted to 37.3%, leaving the average hourly earnings at \$.456 or 75% above July, 1914. The general high level of hourly earnings was maintained through 1920. The beginning of 1921 showed marked declines which continued throughout the year. The decline in hourly earnings has been more severe in iron and steel manufacturing than in any other industry covered in this investigation, except fertilizer manufacturing.

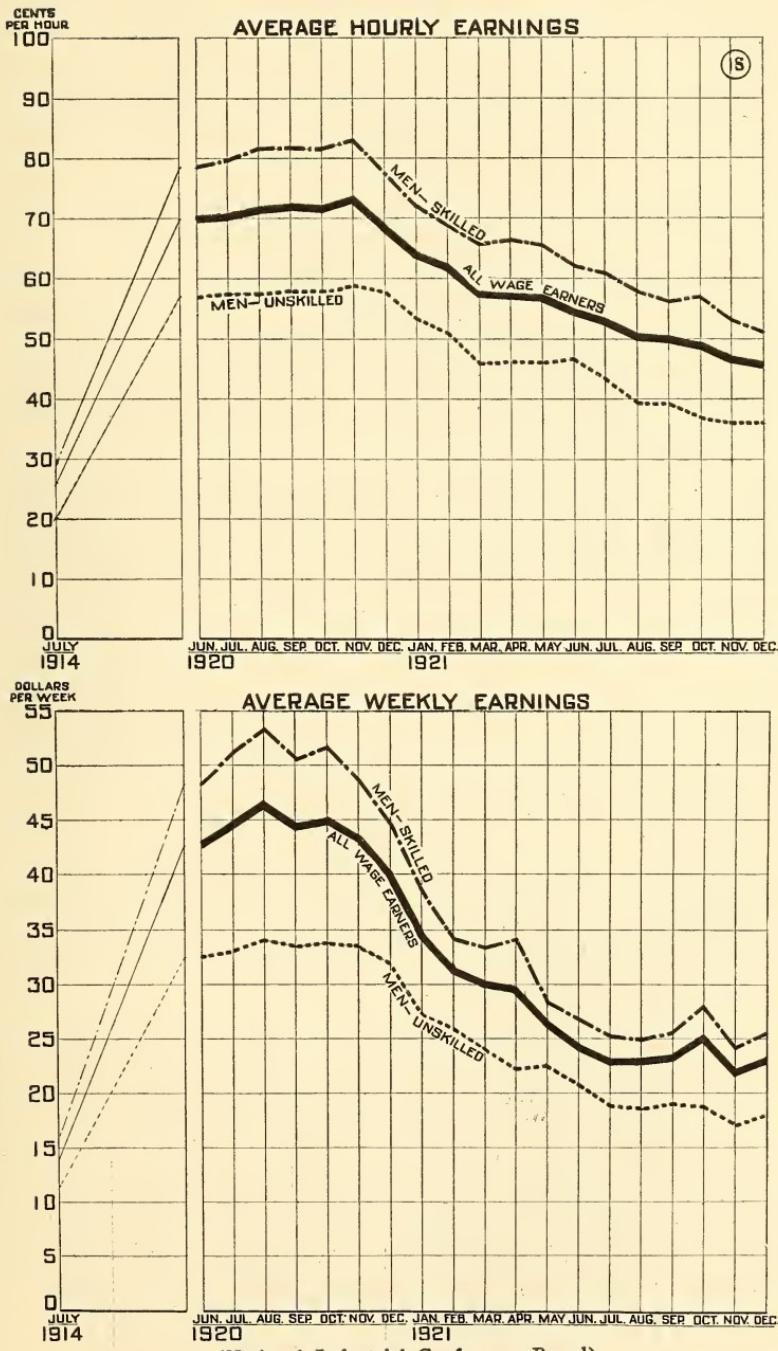
The study shows that in July, 1914, the average hourly earnings of *male common labor* were \$.20. By November, 1920, they had increased 194% to \$.588, and declined 38.8% to \$.36 from the latter period up to January, 1922. In July, 1914, the average hourly earnings of *male skilled labor* were \$.298. By November, 1920, they had increased 179% to \$.831. The decline from this peak up to January, 1922 amounted to 38.4%, the average earnings being \$.512 at the latter period. By January, 1922, therefore, the average hourly earnings for these two groups had increased respectively 80% and 72% over the July, 1914 levels.

(b) Weekly earnings: In July, 1914, the average weekly earnings of *all wage earners* in 44 plants were \$13.97. By August, 1920, they had increased 231% to \$46.26. The decline from this point up to January, 1922 amounted to 50.3%, the average weekly earnings at the latter period being \$23.01. Weekly earnings were well sustained through November, 1920, but a great decline occurred during 1921, due to the large reduction in hourly rates and in working hours.

In July, 1914, the average weekly earnings of *male common labor* were \$11.42. By August, 1920, they had increased 198% to \$34.06, and declined 47.1% to \$18.03 from the latter period up to January, 1922. In July, 1914, the average weekly earnings of *male skilled labor* were \$15.96. They rose 234% to \$53.24 by August, 1920, and declined 52.1% from the latter period to \$25.49 in January, 1922. By January, 1922, therefore, the average weekly earnings of these two groups had increased respectively 58% and 60% over the July, 1914 levels.

As stated in the introduction to this chapter, additional information was received from a few plants which had not previously cooperated with the Conference Board in furnishing wage information. These plants furnished classified weekly

Iron and Steel Manufacturing



(National Industrial Conference Board)

Composite Payroll Data—Iron and Steel Manufacturing

Period One Week In	Number Wage Earners Employed		Average Hours		Wages (All Wage Earners)			
	1914-22 Establ. (28 plants)	1920-22 Establ. (44 plants)	Av. Week Per Wage Earner	Av. Hours Plant Operation**	Av. Hrly. Earnings	Av. Wkly. Earnings**	Index Nos. Earnings	
							Hrly.	Wkly**
1914								
July.....	14,523	.....	53.9	111.4	\$.260	\$13.97	100	100
1920								
June.....	24,747	35,571	55.6	128.9	.699	42.68	269	306
July.....	21,637	33,225	57.3	140.3	.704	44.54	271	319
Aug.....	21,709	33,844	60.0	141.7	.713	46.26	274	331
Sept.....	21,934	34,298	58.0	138.5	.717	44.36	276	318
Oct.....	23,006	35,807	58.5	139.3	.713	45.06	274	323
Nov.....	22,229	34,721	56.5	137.4	.727	43.16	280	309
Dec.....	19,919	31,260	51.5	127.8	.681	39.89	262	286
1921								
Jan.....	18,086	28,356	49.8	128.7	.639	34.42	246	246
Feb.....	16,149	23,520	51.3	128.1	.617	31.20	237	223
March.....	15,924	23,854	47.1	123.4	.573	30.01	220	215
April.....	12,283	18,522	44.2	105.6	.570	29.51	219	211
May.....	12,503	20,071	44.5	112.9	.567	26.22	218	188
June.....	11,207	18,121	42.0	107.5	.545	24.32	210	174
July*.....	7,344	12,548	37.0	113.1	.529	22.86	203	164
Aug.....	9,253	14,694	42.5	111.1	.502	22.86	193	164
Sept.....	10,719	15,939	45.4	114.1	.500	23.46	192	168
Oct.....	10,984	17,564	46.4	118.2	.492	25.02	189	179
Nov.....	12,339	19,089	40.8	113.0	.467	21.90	180	157
Dec.....	12,247	18,766	46.0	115.7	.456	23.01	175	165

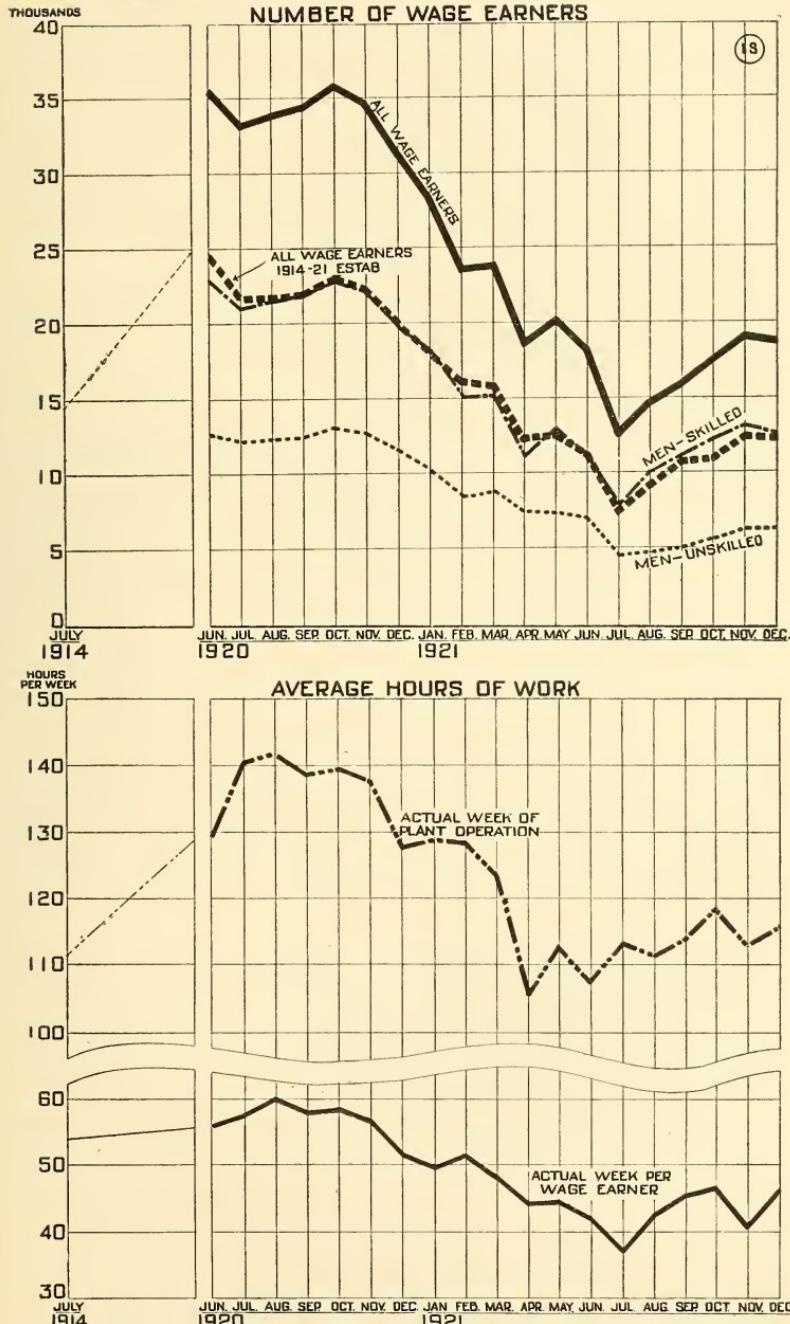
*See Introduction, p. 2.

**44 plants.

payroll data, which have been compiled with the data covering 44 plants and are given below. These data are included in order to give a slightly wider coverage than is afforded by the 44 plants previously discussed.

Period	Common Labor		Skilled Labor		Composite		
	Number Wage Earners	Weekly Wages	Number Wage Earners	Weekly Wages	Number Wage Earners	Weekly Wages	Plant Hours
1921							
July.....	6,776	\$19.01	22,492	\$22.13	29,268	\$21.41	144.5
Aug.....	6,725	18.57	24,240	22.23	30,965	21.44	141.0
Sept.....	6,926	18.82	25,401	22.22	32,327	21.49	141.4
Oct.....	7,515	18.73	27,318	24.37	34,833	23.15	142.4
Nov.....	8,211	17.33	28,824	22.25	37,035	21.16	139.7
Dec.....	8,496	17.59	28,240	22.27	36,736	21.19	141.3

Iron and Steel Manufacturing



(National Industrial Conference Board)

Employment

Total employment decreased from June, 1920 to January, 1922, 47.2%. The percentages of decline in the two groupss were as follows: male common labor, 50.7%; male skilled labor, 45.3%. The effect of the industrial depression began to be felt in December, 1920, when a large decline in employment took place. The declines continued through July, 1921, but an increase occurred from that time through November, a slight decline again occurring in December.

Employment decreased 15.7% in identical establishments between July, 1914 and the end of the year 1921.

Hours

The average hours of the *nominal week* cannot be calculated, as there is a great variety of standard hours in the iron and steel industry. Iron and steel manufacturing is primarily an industry of continuous operation, the standard week of production being approximately 168 hours. The full productive week, however, generally ranges from 144 to 168 hours.

In July, 1914, the *average hours of plant operation* were 111.4. This was a period of depression. In June, 1920, the hours of plant operation were 128.9, and there were still larger advances during the summer months of 1920. It was not until December, 1920 that a decline took place, which continued throughout the year 1921. In December, 1921, the average hours of plant operation were 115.7, or 13.2 hours below the average in June, 1920.

The *average week per wage earner* in 36 plants was 53.9 hours in July, 1914, and increased in June, 1920 to 55.6. The average week was well sustained through November, but beginning in December and continuing through 1921, much lower levels was maintained. In December, 1921, the average wage earner was working 46 hours per week, or 9.6 hours below the level of 55.6 hours in June, 1920. This reflects the large decline in working hours suffered by the wage earner during the depression period.

Conclusion

The study of wages and hours in the iron and steel industry shows that:

Classified Payroll Data—Iron and Steel Manufacturing

PERIOD	36 PLANTS						44 Plants					
	MALE UNSKILLED			MALE SKILLED			MALE UNSKILLED			MALE SKILLED		
	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings
1914 July..	4,775	54.4	\$1.200	\$10.88	100	7,556	53.7	\$16.01	100	100	6,385	\$11.42
1920 June..	8,976	56.6	.570	32.25	285	296	14,368	54.9	.783	263	269	12,633
July..	8,507	57.1	.574	32.78	287	302	11,688	57.4	.797	267	286	12,191
Aug..	8,593	59.5	.574	34.20	287	314	11,686	60.4	.814	49.16	273	12,317
Sept..	8,562	57.9	.579	33.53	290	308	11,882	58.0	.816	47.31	274	12,400
Oct..	9,058	58.9	.578	34.06	289	313	12,344	58.2	.813	47.31	273	13,046
Nov..	8,693	56.8	.588	33.42	294	307	11,673	56.3	.831	46.78	279	12,615
Dec..	8,106	54.9	.578	31.73	289	292	10,259	48.7	.774	37.70	260	235
1921 Jan..	6,867	50.8	.533	27.10	267	249	9,487	49.0	.718	35.18	241	220
Feb..	5,777	50.4	.509	25.61	255	235	8,712	51.9	.687	35.65	231	223
Mar..	6,012	50.5	.461	23.31	231	214	8,702	44.7	.660	29.55	221	185
April.	5,116	47.2	.462	21.81	231	200	6,449	41.8	.666	27.82	223	174
May..	5,047	48.4	.460	22.24	230	204	7,043	41.7	.657	27.39	220	171
June..	4,673	45.6	.465	21.19	233	195	5,881	39.2	.620	24.27	208	152
July*	2,938	40.7	.431	17.54	216	161	4,157	34.4	.611	21.06	205	132
Aug..	3,344	48.7	.394	19.18	197	176	5,853	38.9	.580	22.58	195	141
Sept..	3,569	48.3	.392	18.91	196	174	6,942	43.9	.562	24.63	189	154
Oct..	3,832	49.3	.368	18.15	184	167	6,822	44.8	.569	25.45	191	159
Nov..	3,958	45.5	.362	16.43	181	151	7,562	38.4	.532	20.40	179	127
Dec..	3,919	49.6	.360	17.86	180	164	7,502	44.2	.512	22.61	172	141

1. Average *hourly* earnings of all wage earners on January 1, 1922, stood at \$.456 or 75% above the 1914 level of \$.26.
2. Average *weekly* earnings of all wage earners on January 1, 1922, stood at \$23.01 or 65% above the July, 1914 level of \$13.97.
3. Wage reductions from the peak, of 37.3% in hourly earnings and 50.3% in weekly earnings, were far above the average found in other industries in this investigation. This was primarily due to the fact that the iron and steel industry was more directly affected by the industrial depression than any other manufacturing group.
4. Further effect of the industrial depression was seen in the decline of 47.2% in employment between June, 1920 and January, 1922. In December, 1921, the average hours of plant operation were 13.2 hours below the level for June, 1920. In December, 1921, the average wage earner was working 9.6 hours less than in June, 1920.
5. The trough or depression period occurred in the middle of the summer of 1921, and while there was some improvement before the end of the year 1921, conditions in the iron and steel industry did not give promise of a rapid return to normal conditions of employment, production, or working hours.

VI

COTTON MANUFACTURING

A. North

In considering wages in the cotton industry the differences between manufacturing and wage earning conditions in the northern and the southern mills must be borne in mind. In the southern mills company houses and other facilities usually are provided for the workers at nominal prices. This must be taken into account in measuring wages. In some of the northern mills working hours are limited by law, while such restrictions are not so general in the southern mills. There are also other differences in manufacturing conditions which make separate treatment of the two branches of the industry necessary.

The northern cotton mill wage investigation was confined to establishments engaged in spinning and weaving and finishing of cotton fabrics. Returns were received from 61 plants, all of which supplied material for the last wage investigation. The highest number of wage earners employed in any one month in the 61 establishments was 44,653 in June, 1920. Women were employed in all of the establishments. The geographical distribution within eight states is as follows:

Connecticut.....	5	New Hampshire.....	6
Illinois.....	1	New York.....	4
Maine.....	3	Pennsylvania.....	5
Massachusetts.....	28	Rhode Island.....	8

Wages

(a) Hourly Earnings: In July, 1914, the average hourly earnings of *all wage earners* were \$.171. By June, 1920, they had increased 212% to \$.533. The decline from the latter period up to January, 1922 was 23.6%, leaving the average

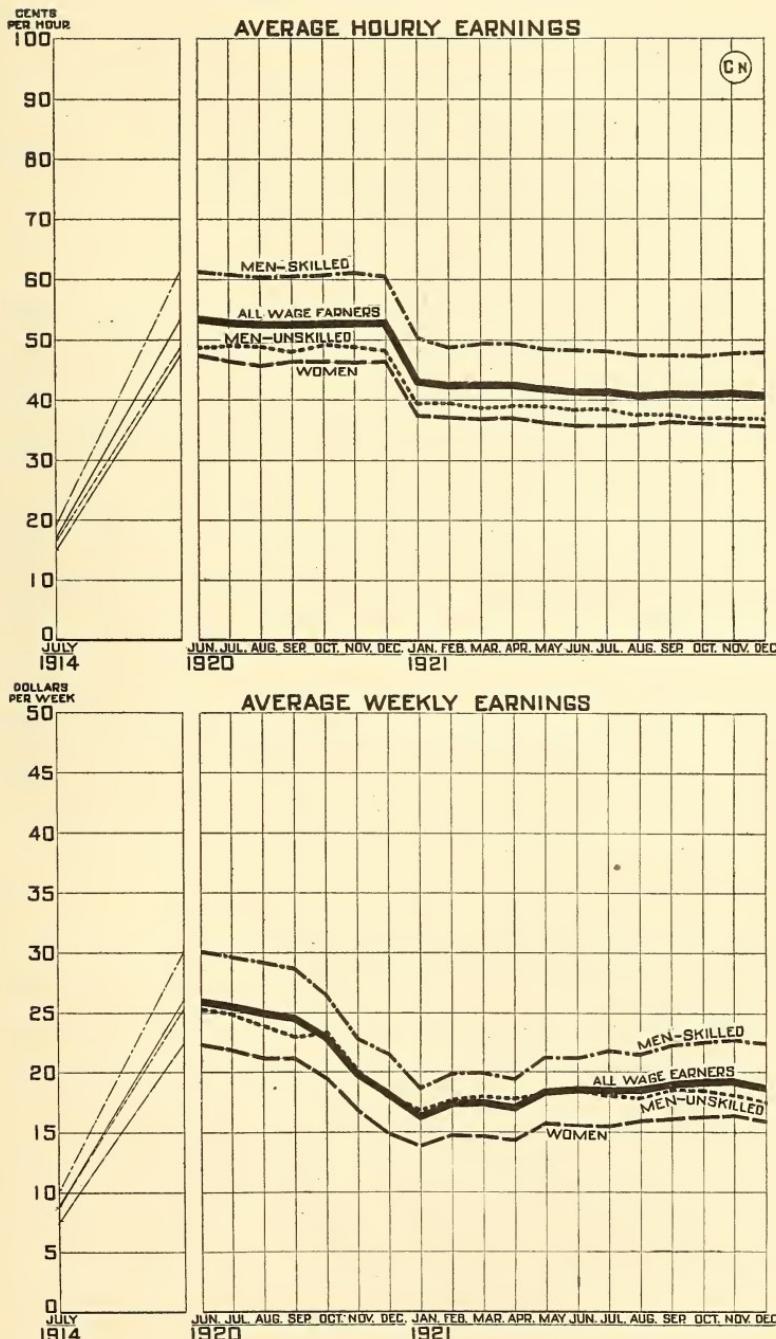
hourly earnings at that time \$.407, an increase of 138% over July, 1914. During 1920 there was only a slight decline in hourly earnings. At the beginning of 1921 there was an average reduction of almost 10 cents an hour. The decline, however, during the remainder of 1921 has been moderate and gradual.

In July, 1914, the average hourly earnings of *male common labor* were \$.166. By October, 1920, they had increased 196% to \$.491. The decline from the latter period up to January 1922 was 24.8% to \$.369. In July, 1914, the average hourly earnings of *male skilled labor* were \$.193. By June, 1920, they had increased 217% to \$.612 and declined 21.9% to \$.478 from the latter period up to the beginning of 1922. In July, 1914, the average hourly earnings of *women* were \$.150. By June, 1920, they had increased 215% to \$.473. The decline from this peak up to January, 1922 amounted to 24.5%, the average earnings at the beginning of 1922 being \$.357. By January, 1922, therefore, the average hourly earnings of these three groups had increased respectively 122%, 148% and 138% over the July, 1914 levels.

(b) Weekly earnings: The average weekly earnings of *all wage earners* in July, 1914, were \$8.90. By June, 1920, they had increased 191% to \$25.94. The decline from the latter period up to January, 1922 was 28.3%, leaving the average weekly earnings at \$18.59, an increase of 109% over July, 1914. The decline was gradual through September, 1920. Beginning in October, due to extensive reductions in working hours, weekly earnings began to decrease rapidly. This movement became very marked in January, 1921, when wide reductions in hourly rates were made. Except for a temporary decline in April, the succeeding months showed a steady increase in weekly earnings due to longer working hours, although hourly rates continued to decline.

In July, 1914, the average weekly earnings of *male common labor* were \$8.85. By June, 1920, they had increased 185%

Cotton Manufacturing—(North)



(National Industrial Conference Board)

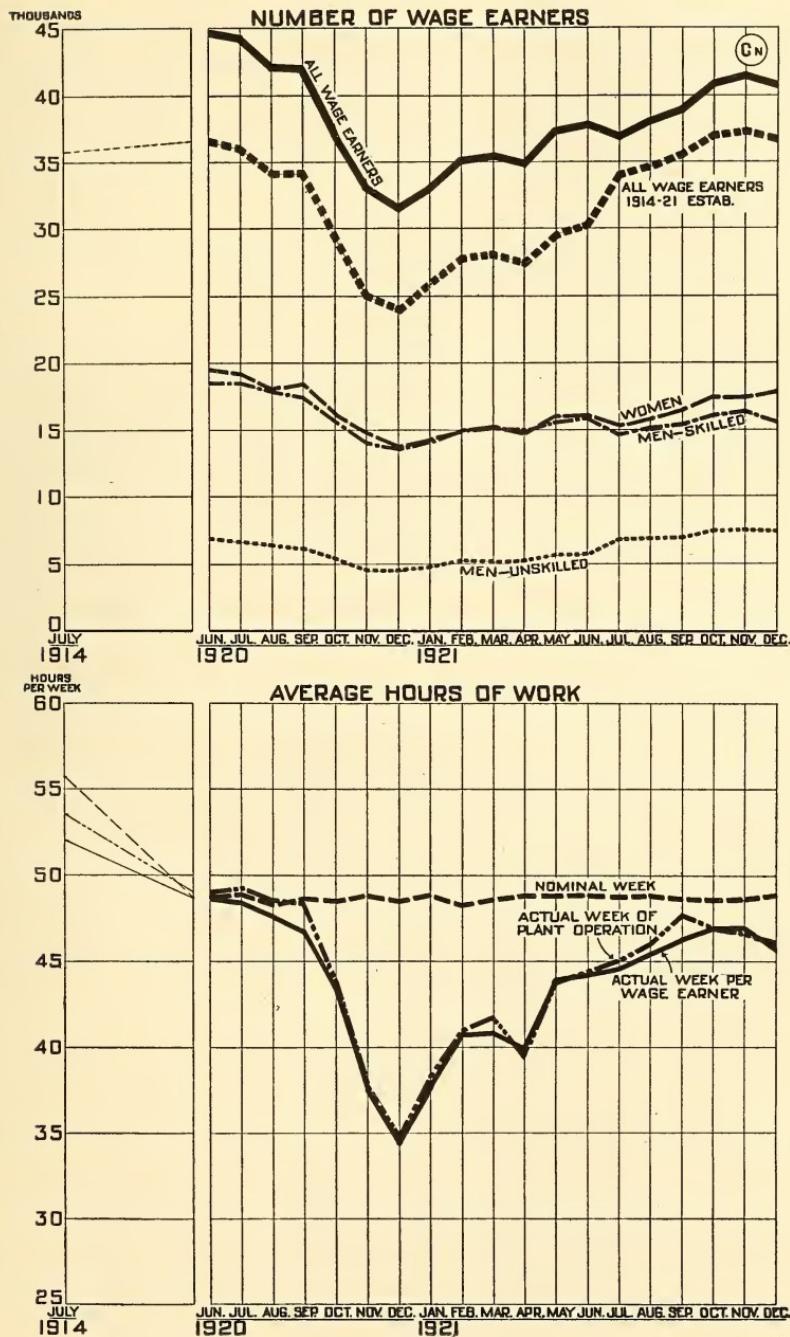
Composite Payroll Data—Cotton Manufacturing—(North)

Period	Number Wage Earners Employed		Average Hours			Wages (All Wage Earners)				
	1914-22 Establ. (53 plants)	1920-22 Establ. (61 plants)	Av. Week Per Wage Earner	Av. Hours Plant Oper- ation	Nomi- nal Week	Av. Hrly. Earn- ings	Av. Wkly. Earn- ings	Index Nos. Earnings	Hrly.	Wkly.
<i>1914</i>										
July....	35,785	.....	52.0	53.5	55.8	\$.171	\$.890	100	100	
<i>1920</i>										
June....	36,548	44,653	48.7	49.1	48.8	.533	25.94	312	291	
July....	36,065	44,225	48.4	49.3	48.9	.527	25.51	308	287	
Aug....	34,087	42,059	47.6	48.6	48.3	.524	24.92	306	280	
Sept....	34,007	41,876	46.6	48.3	48.6	.525	24.48	307	275	
Oct....	29,296	37,180	43.4	43.8	48.6	.528	22.93	309	258	
Nov....	25,028	33,006	37.4	37.6	48.9	.527	19.74	308	222	
Dec....	23,737	31,351	34.4	34.7	48.6	.528	18.16	309	204	
<i>1921</i>										
Jan....	25,840	32,949	37.7	38.3	48.9	.430	16.21	251	182	
Feb....	27,827	35,091	40.7	40.9	48.3	.424	17.26	248	194	
March..	28,124	35,481	40.8	41.7	48.7	.424	17.32	248	195	
April...	27,290	34,760	39.9	39.5	48.9	.425	16.94	249	190	
May...	29,554	37,221	43.9	43.8	48.9	.418	18.32	244	206	
June...	30,192	37,741	44.2	44.3	49.0	.414	18.29	242	206	
July*...	34,054	36,875	44.5	45.0	48.9	.413	18.35	242	206	
Aug....	34,609	37,923	45.3	45.8	48.9	.407	18.45	238	207	
Sept....	35,449	38,975	46.1	47.6	48.7	.410	18.90	240	212	
Oct....	36,827	40,752	46.8	46.8	48.7	.408	19.08	239	214	
Nov....	37,262	41,302	46.8	46.5	48.7	.409	19.14	239	215	
Dec....	36,699	40,660	45.7	45.9	48.9	.407	18.59	238	209	

*See Introduction, p. 2.

to \$25.22. From the latter period up to January, 1922, they declined 31.2% to \$17.36. In July, 1914, the average weekly earnings of *male skilled labor* were \$10.21. To June, 1920, they increased 194% to \$30.03 and from the latter period up to the beginning of 1922 declined 25.6% to \$22.33. In July, 1914, the average weekly earnings of *women* were \$7.59. By June, 1920, they had increased 194% to \$22.31. The decline from this peak up to January, 1922 amounted to 29.1%, the average earnings at the beginning of 1922 being \$15.82. By January, 1922, therefore, the average weekly earnings for these three groups had increased respectively 96%, 119% and 108% over the July, 1914 levels.

Cotton Manufacturing—(North)



(National Industrial Conference Board)

Employment

Total employment in the establishments covered decreased 8.9% from June, 1920 up to the beginning of January, 1922. During this period employment of common labor increased 8.4% while that of male skilled labor declined 15.8% and women 8.4%. The year 1921 was marked by a steady increase in employment.

Employment in identical establishments between July, 1914, and the end of the year 1921 increased 2.6%.

Hours

In July, 1914, 55.8 hours constituted the *average nominal week*. In June, 1920, they had been reduced to 48.8, and a general level of from 48-49 hours was maintained up to January, 1922. The influence of legislation requiring the 48-hour week is partially responsible for the practically stationary level of the nominal week.

The *average hours of plant operation* decreased from 53.5 in July, 1914, to 49.1 in June, 1920. Unquestionably the large decrease in hours during this period is to be accounted for mainly by the enactment in Massachusetts in 1919 of the 48-hour work week for women. The decline of plant activity became marked in October, 1920, and reached the depression point for the next three months. The year 1921 was marked by a steady increase to more normal hours of productive activity.

The *average actual week per wage earner* showed a decline from 52 hours to 48.7 hours in June, 1920. The trend of hours showed a gradual decline through the summer of 1920, marked depression during the winter, followed by revival in 1921.

Conclusion

The study of wages and hours in northern cotton mills shows that:

1. Average *hourly* earnings of all wage earners on January 1, 1922 stood at \$.407, or 138% above the July, 1914 level of \$.171.
2. Average *weekly* earnings of all wage earners on January 1, 1922 stood at \$18.59, or 109% above the July, 1914 level of \$8.90.

Classified Payroll Data—Cotton Manufacturing (North)

PERIOD	MALE UNSKILLED				MALE SKILLED				WOMEN			
	No. Wage Earners One Week In	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings Hourly	No. Wage Earners One Week In	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings Hourly	No. Wage Earners One Week In	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings Hourly
1914 July..	5,142	53.3	\$.166	\$8.85	100	100	15,408	52.9	\$.193	\$10.21	100	100
1920												
June..	6,761	51.9	.486	25.22	293	285	18,472	49.1	.612	30.03	317	294
July..	6,695	51.0	.488	24.84	294	281	18,388	48.9	.607	29.64	315	290
Aug..	6,357	48.9	.488	23.88	294	270	17,763	48.4	.603	29.11	312	285
Sept..	6,195	47.7	.479	22.86	289	258	17,377	47.4	.604	28.60	313	280
Oct..	5,398	47.3	.491	23.24	296	263	15,598	43.6	.607	26.46	315	259
Nov..	4,302	41.2	.487	20.07	293	227	13,954	37.3	.610	22.73	316	223
Dec..	4,332	37.2	.482	17.91	290	202	13,475	35.6	.603	21.48	312	210
1921												
Jan..	4,639	42.3	.395	16.72	238	189	14,127	37.0	.501	18.54	260	182
Feb..	5,199	44.4	.395	17.55	238	198	14,894	40.7	.487	19.81	252	194
Mar..	5,138	46.1	.387	17.84	233	202	15,127	40.3	.493	19.86	255	195
April.	5,195	45.3	.391	17.70	236	200	14,857	39.2	.494	19.36	256	190
May..	5,599	46.9	.390	18.29	235	207	15,567	43.7	.484	21.16	251	207
June..	5,701	47.9	.383	18.36	231	207	15,916	43.9	.481	21.14	249	207
July*	6,798	46.9	.383	17.96	231	203	14,691	45.0	.482	21.66	250	212
Aug..	6,971	47.7	.373	17.79	225	201	15,078	45.4	.473	21.45	245	210
Sept..	6,985	49.4	.374	18.48	225	209	15,479	46.7	.475	22.17	246	217
Oct..	7,662	49.8	.369	18.38	222	208	16,090	47.5	.473	22.48	245	220
Nov..	7,497	48.6	.370	18.00	223	203	16,348	47.3	.478	22.62	248	222
Dec..	7,330	47.1	.369	17.36	222	196	15,547	46.7	.478	22.33	248	219

3. The percentages of decline from the peak of hourly and weekly earnings were larger than in many other basic industries.

4. Employment declined 8.9% from June, 1920 up to the beginning of 1922.

5. The industry showed a decline during the last half of 1920, marked depression during the winter of 1920-21, and a generally sustained recovery throughout 1921. Early readjustment brought the industry to a better condition at the end of 1921 than was found in many other basic industries.

B. South

The wage investigation among cotton manufacturing plants in the southern states, as in the northern cotton mills, was confined to establishments engaged in spinning and weaving and finishing of cotton fabrics. The geographical distribution among 10 southern states is as follows:

Alabama.....	2	North Carolina.....	1
Georgia.....	6	South Carolina.....	12
Kentucky.....	1	Tennessee.....	3
Mississippi.....	1	Texas.....	2
Maryland.....	2	Virginia.....	2

Returns were received from 32 plants, 31 of which supplied material for the last wage investigation. The largest number of wage earners employed in any one month was 16,083 in December, 1921. Women were employed in all of the establishments.

Any comparison of wages in northern and southern cotton mills must take into consideration the differences in conditions in the two sections of the country. In the average southern cotton mill town, company houses and accompanying facilities are usually provided by the operators, at a nominal price, while in northern cotton manufacturing centers, such provisions are generally not made. Furthermore, owing to the absence of legal restrictions, hours of work are generally longer in the southern than in the northern mills.

Wages

(a) Hourly earnings: In July, 1914, the average hourly earnings of *all wage earners* were \$128. By October, 1921, they had risen 225% to \$.416. They declined 30.5% from the latter period up to January, 1922, at which time the average hourly earnings were \$.289, an increase of 126% over July, 1914. A general high level of hourly earnings was maintained through November, 1920, followed by a reduction of 5 cents per hour in December. The year 1921 was marked by gradual

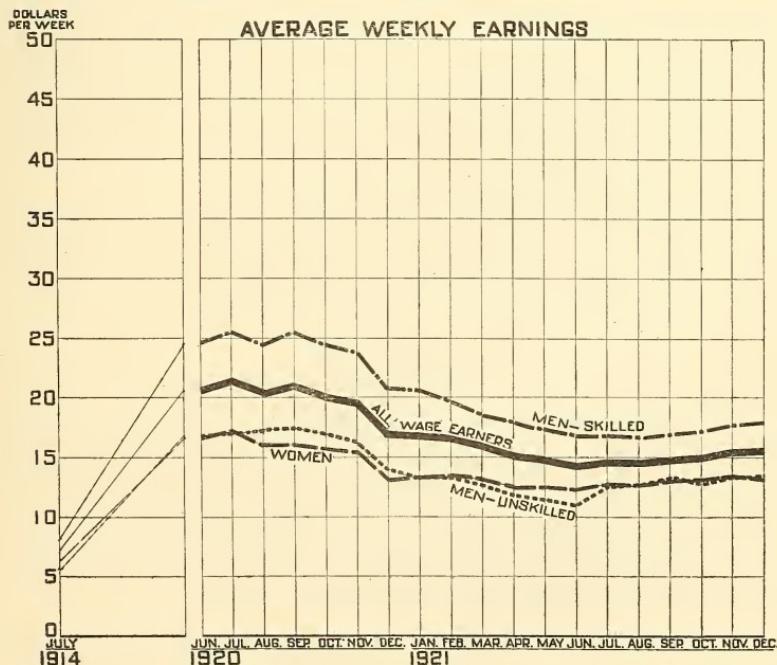
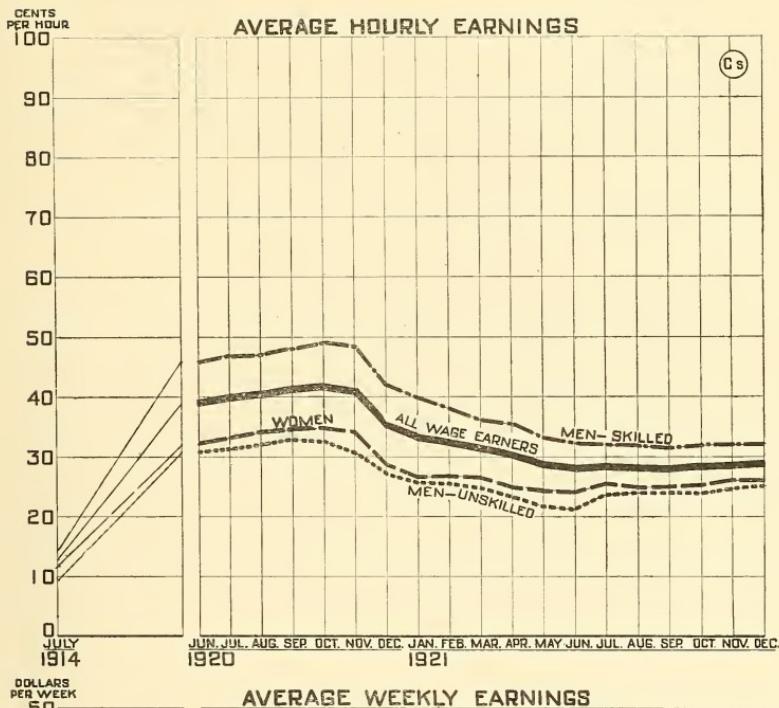
reductions throughout the year, amounting to 5 cents. Indications pointed to slightly increased hourly earnings at the close of 1921.

In July, 1914, the average hourly earnings of *male common labor* were \$.095. In September, 1920, they had increased 246% to \$.329. From the latter period up to January, 1922 they declined 24% to \$.250. In July, 1914, the average hourly earnings of *male skilled labor* were \$.145. By October, 1920, they had increased 239% to \$.492, and then declined 34.8% to \$.321 from the latter period up to the beginning of 1922. In July, 1914 average hourly earnings of *women* were \$.117. In October, 1920, they had reached \$.348, an increase of 197%. The decline from this peak up to January, 1922, amounted to 25.6%, the average hourly earnings at the beginning of 1922 being \$.259. By January, 1922, therefore, the average hourly earnings for these three groups had increased respectively 163%, 121%, and 121%.

(b) *Weekly earnings:* The average weekly earnings of *all wage earners* in July, 1914 were \$7.27. By July, 1920, they had increased 193% to \$21.28. The decline amounted to 27.2% from the latter period up to January, 1922, at which time the average weekly earnings were \$15.50, a net increase of 113% over July, 1914. The trend of weekly earnings shows moderate declines from November, 1920, with a sharp reduction occurring in December, amounting to \$2.62, or 13.4%. The year 1921 was marked by further reductions through June. Beginning in July, and extending to the end of the year, there was a constant increase in weekly earnings due to longer working hours.

In July, 1914, the average weekly earnings of *male common labor* were \$5.57. By September, 1920 they had increased 213% to \$17.41, then declining 22.6% to \$13.48 from the latter period up to the beginning of 1922. In July, 1914, the average weekly earnings of *male skilled labor* were \$8.22. By September, 1920 they reached \$25.47, an increase of 210%, and then declined 30% to \$17.83 from the latter period up to the beginning of 1922. In July, 1914, the average weekly earnings of *women* were \$6.46. In July, 1920, they had reached \$17.28, an increase of 167%. The decline from this peak up to January, 1922 amounted to 23.7%, the average earnings at the beginning of

Cotton Manufacturing—(South)



(National Industrial Conference Board)

Composite Payroll Data—Cotton Manufacturing—(South)

Period One Week In	Number Wage Earners Employed		Average Hours			Wages (All Wage Earners)			
	1914-22 Establ. (24 plants)	1920-22 Establ. (32 plants)	Av. Week Per Wage Earner	Av. Hours Plant Operation	Nominal Week	Av. Hrly. Earnings	Av. Wkly. Earnings	Index Nos. Earnings	
							Hrly.	Wkly.	
<i>1914</i>									
July....	10,977	.....	56.6	58.8	59.2	\$.128	\$7.27	100	100
<i>1920</i>									
June....	11,847	14,326	53.0	54.8	55.0	.388	20.56	303	283
July....	11,861	14,363	53.2	54.2	55.0	.400	21.28	313	293
Aug....	11,962	14,807	50.4	54.6	55.0	.402	20.27	314	279
Sept....	11,747	14,705	50.5	53.8	55.1	.412	20.82	322	286
Oct....	11,001	13,818	48.1	50.9	54.6	.416	19.99	325	275
Nov....	10,982	13,494	47.9	50.4	54.9	.409	19.56	320	269
Dec....	10,728	13,115	48.1	50.0	54.5	.352	16.94	275	233
<i>1921</i>									
Jan....	10,453	12,483	50.9	51.9	54.2	.330	16.82	258	231
Feb....	11,288	13,105	51.2	52.4	54.6	.323	16.54	252	228
March..	11,211	13,158	50.6	51.7	54.7	.313	15.81	244	217
April...	11,186	12,994	49.9	51.0	54.7	.302	15.06	236	207
May....	11,142	13,250	51.6	52.1	54.7	.286	14.76	223	203
June....	11,571	13,603	51.4	52.3	54.7	.280	14.37	219	198
July*....	12,512	14,443	51.4	53.3	54.7	.284	14.62	222	201
Aug....	12,237	14,250	51.5	53.3	54.6	.281	14.48	220	199
Sept....	13,286	15,305	53.0	54.6	54.7	.280	14.84	219	204
Oct....	13,418	15,632	52.7	54.3	54.6	.284	14.97	222	206
Nov....	13,443	15,806	53.8	54.6	54.6	.287	15.47	224	213
Dec....	13,716	16,083	53.6	54.2	54.6	.289	15.50	226	213

*See Introduction, p. 2.

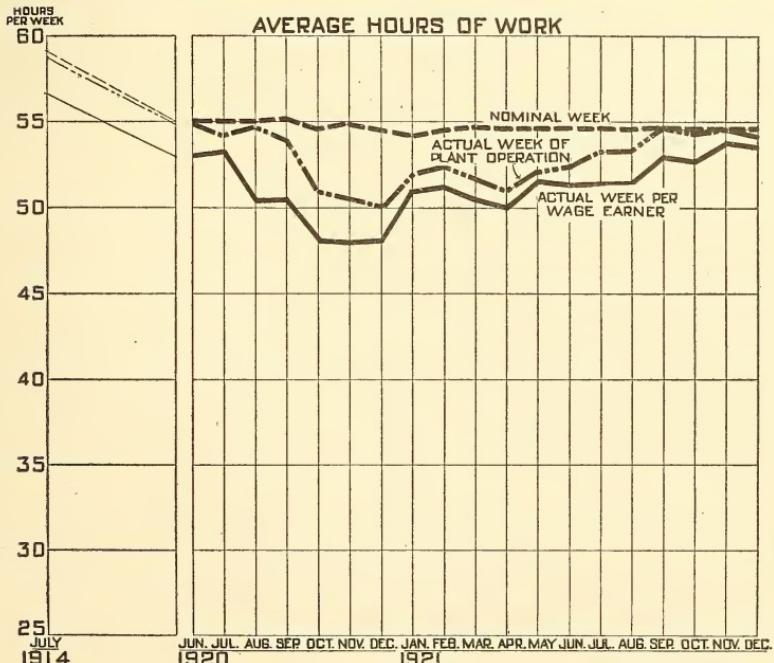
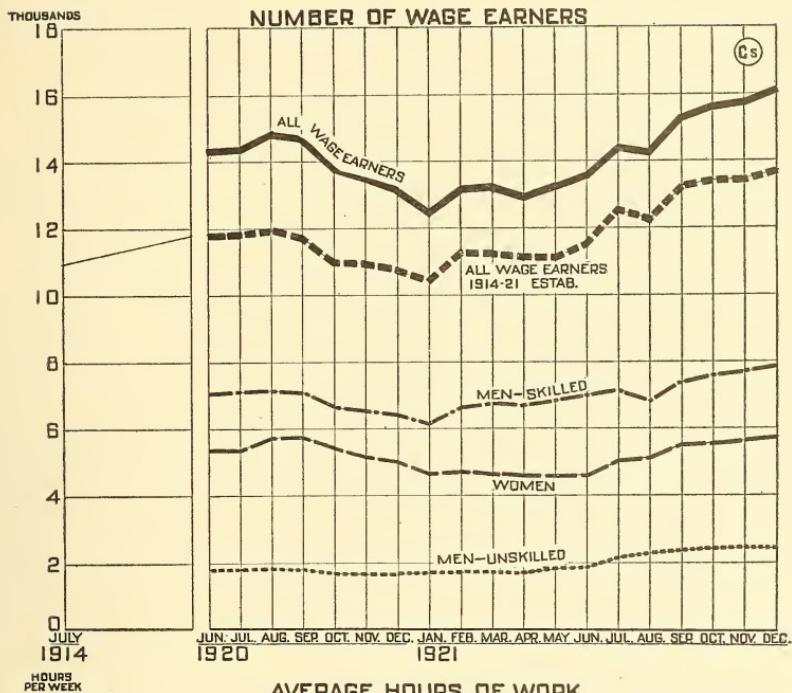
1922 being \$13.19. By January, 1922, therefore, the average weekly earnings for these three groups had increased respectively 142%, 117% and 104% over July, 1914.

Employment

Total employment in the establishments covered increased approximately 12.3% from June, 1920 up to the beginning of 1922. The last half of 1921 has shown a continuous increase in employment. During the period from June, 1920 to January, 1922, employment of male common labor increased 34.3%, male skilled labor 10.4%, and of women 7.2%.

Employment in identical establishments between July, 1914 and the end of the year 1921 increased 25%.

Cotton Manufacturing—(South)



(National Industrial Conference Board)

Hours

In July, 1914, 59.2 hours constituted the *average nominal week*. By June, 1920, the hours had declined to 55 per week. In December, 1920 they had been reduced still further to 54.5 hours, and the general level of slightly more than 54½ hours, with the exception of January, was maintained during 1921.

The *average hours of plant operation* in July, 1914 were 58.8. In June, 1920, they had declined to 54.8. The industrial depression began to take effect in October, and continued throughout the remaining months of 1920. The first half of 1921 showed marked improvement in plant activity, while the latter half of 1921 showed a steady increase in plant hours, reflecting an approach to normal conditions of production.

The *average actual week per wage earner* showed a decline from 56.6 hours in 1914, to 53 hours in June, 1920. The decline in actual hours began in August and continued throughout the closing months of 1920. The beginning of 1921, however, showed marked stimulation in working hours. The increase in the average week per wage earner during the last half of 1921 had a marked effect upon weekly earnings, so that the average earnings of employees in southern cotton manufacturing steadily increased. The early wage reductions during 1920 in this industry undoubtedly had the effect of stabilizing wages sooner than in many basic industries.

Conclusion

The study of wages and hours in the cotton manufacturing industry in southern mills shows that:

1. Average *hourly* earnings of all wage earners on January 1, 1922, stood at \$.289, or 126% above the July, 1914 level of \$.128.
2. Average *weekly* earnings of all wage earners on January 1, 1922, stood at \$15.50, or 113% above the July, 1914 level of \$7.27.
3. The decline in both hourly and weekly wages from the peak was more extensive than in many basic industries, but the increase received between 1914 and the peak of 1920 left the average wage earner comparatively well off at the beginning of 1922.

Classified Payroll Data—Cotton Manufacturing (South)

PERIOD	MALE UNSKILLED				MALE SKILLED				WOMEN			
	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Av. Weekly Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Av. Weekly Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Av. Weekly Earnings
1914												
July..	1,505	58.8	\$.095	\$5.57	100	100	5,799	56.9	\$.145	\$8.22	100	100
1920												
June..	1,842	54.4	.308	16.75	324	301	7,095	53.4	.459	24.54	317	299
July..	1,867	54.2	.313	16.94	329	304	7,126	54.0	.471	25.44	325	309
Aug..	1,890	54.1	.319	17.27	336	310	7,177	52.0	.470	24.44	324	297
Sept..	1,856	52.9	.329	17.41	346	313	7,103	52.8	.482	25.47	332	310
Oct..	1,753	52.5	.323	16.97	340	305	6,635	49.5	.492	24.35	339	296
Nov..	1,755	52.7	.306	16.14	322	290	6,559	48.8	.486	23.74	335	289
Dec..	1,671	51.8	.270	13.98	284	251	6,445	49.4	.420	20.76	290	253
1921												
Jan..	1,757	51.6	.256	13.23	269	238	6,120	51.4	.399	20.50	275	249
Feb..	1,779	52.1	.254	13.26	267	238	6,620	51.7	.380	19.66	262	239
Mar..	1,759	51.5	.246	12.64	259	227	6,733	51.0	.362	18.49	250	225
April..	1,760	51.6	.230	11.87	242	213	6,641	50.1	.355	17.81	245	217
May..	1,841	52.4	.218	11.43	205	6,802	51.9	.331	17.21	228	209	193
June..	1,876	51.6	.213	11.01	224	198	7,010	51.9	.321	16.69	221	203
July*	2,189	52.7	.236	12.41	248	223	7,171	52.3	.319	16.68	220	203
Aug..	2,298	52.5	.239	12.53	252	225	6,837	52.1	.318	16.56	219	201
Sept..	2,372	53.7	.239	13.29	252	239	7,422	53.6	.315	16.89	217	205
Oct..	2,435	53.5	.237	12.71	249	228	7,634	53.4	.320	17.12	221	208
Nov..	2,474	54.1	.246	13.34	259	239	7,697	55.1	.320	17.64	221	215
Dec..	2,472	53.9	.250	13.48	263	242	7,836	55.6	.321	17.83	221	217

4. There was an increase of 12.3% in employment between June, 1920 and the beginning of 1922, the last six months of 1921 showing a steady addition to working forces.
5. The increase in working hours during the last half of 1921 increased weekly earnings, while hourly earnings remained practically stationary.
6. The situation at the close of 1921 indicated an approach to normal conditions of wages, employment and production.

VII

WOOL MANUFACTURING

Wage data for this industry were secured from establishments engaged in the spinning of woolen and worsted yarns and in weaving and finishing woolen and worsted fabrics. Returns were received from 70 establishments, 64 of which furnished information for the last wage investigation. The largest number of wage earners employed in any one month in the 70 establishments was 44,517 in October, 1921. Thus, over 22% of the wage earners reported by the 1919 Census of Manufactures for the wool industry are covered in this report. The geographical distribution within 16 states is as follows:

California.....	1	New Hampshire.....	5
Connecticut.....	6	New Jersey.....	4
Illinois.....	2	New York.....	3
Iowa.....	1	Ohio.....	1
Maine.....	4	Pennsylvania.....	7
Maryland.....	1	Rhode Island.....	7
Massachusetts.....	25	Vermont.....	1
Minnesota.....	1	West Virginia.....	1

Wages

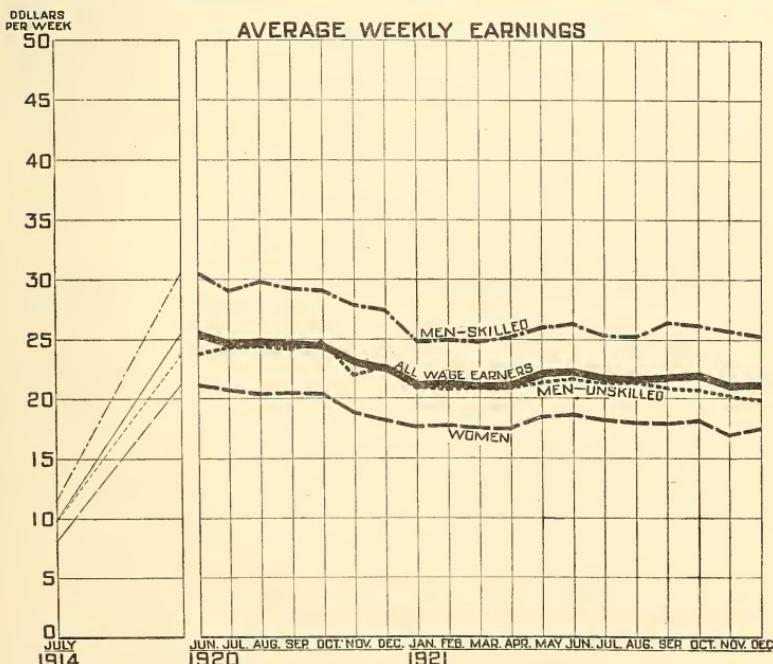
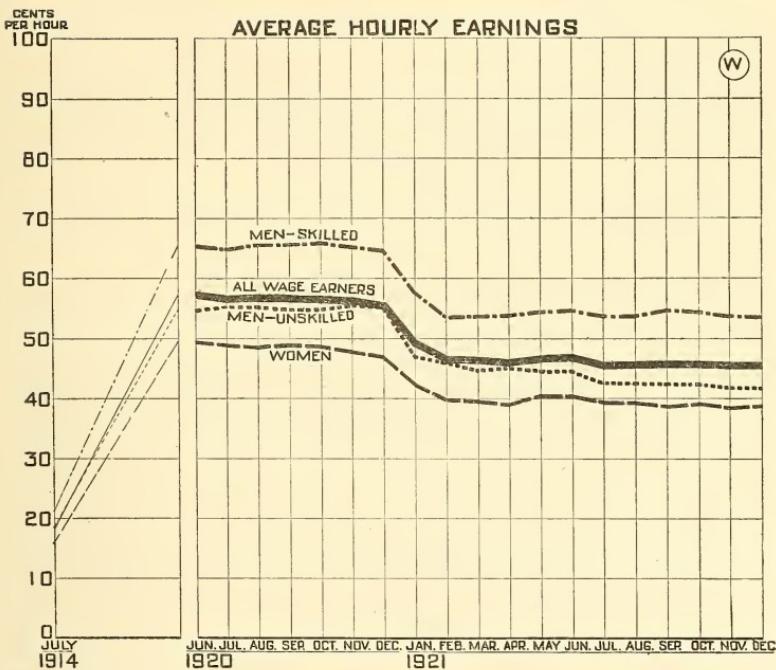
(a) *Hourly earnings:* In July, 1914, the average hourly earnings of all wage earners were \$.185. By June, 1920, they had increased 209% to \$.571. The decline was 20.3% from the latter period up to January, 1922, at which time the average hourly earnings were \$.455, an increase of 146% over July, 1914. The period from June, 1920 up to January, 1922 showed a gradual decline from month to month, a wage cut of 6 cents per hour occurring in January, 1921, when the entire industry was going through a readjustment period. Another large reduction occurred in February, 1921. The last six months of 1921 were characterized by a practically stable condition.

In July, 1914 the average hourly earnings of *male common labor* were \$1.87. By November, 1920, they had increased 196% to \$5.53, and declined 24.8% to \$4.16 from the latter period up to January, 1922. In July, 1914, the average hourly earnings of *male skilled labor* were \$2.11. By October, 1920, they had risen 211% to \$6.57 and declined 18.7% to \$5.34 from the latter period up to the beginning of 1922. In July, 1914, the average hourly earnings of *women* were \$1.59. In June, 1920, they had risen 211% to \$4.94. The decline from this peak up to January, 1922 amounted to 21.7%, the average earnings at the beginning of 1922 being \$3.87. By January, 1922, therefore, the average hourly earnings of these three groups had increased respectively 122%, 153% and 143% over the July, 1914 levels.

(b) Weekly earnings: The average weekly earnings of *all wage earners* in July, 1914 were \$9.77. By June, 1920, they had increased 160% to \$25.46. The decline was 17.2% from the latter period up to January, 1922, at which time the average weekly earnings were \$21.09, a net increase of 116% over July, 1914. The trend of weekly earnings was steadily downward from the peak through January, 1921. A stagnant period followed in the succeeding months, while the last half of 1921 was characterized by a practically stable level of weekly earnings of approximately \$21.50 per week. Weekly earnings have been well sustained on account of the fairly regular working hours, even though there have been considerable wage reductions.

In July, 1914 the average weekly earnings of *male common labor* were \$9.75. By October, 1920, they had increased 154% to \$24.75. From the latter period up to January, 1922, they declined 19.4%, to \$19.94. In July, 1914, the average weekly earnings of *male skilled labor* were \$11.48. By June, 1920, they had reached \$30.51, an increase of 166%, and declined 17.2% to \$25.27 from the latter period up to the beginning of 1922. In July, 1914, the average weekly earnings of *women* were \$8.18. By June, 1920, they had increased 159% to \$21.21. The decline from this peak up to January, 1922 amounted to 17.9%, the average wage at the beginning of 1922 being \$17.41. By January, 1922, therefore, the weekly earnings for these three groups had increased respectively 105%, 120% and 113% over the July, 1914 levels.

Wool Manufacturing



(National Industrial Conference Board)

Composite Payroll Data—Wool Manufacturing

Period One Week In	Number Wage Earners Employed		Average Hours			Wages (All Wage Earners)			Index Nos. Earnings
	1914-21 Establ. (56 plants)	Total All Establ. (70 plants)	Av. Week Per Wage Earner	Av Hours Plant Operat- ion	Nomi- nal Week	Av. Hrly. Earn- ings	Av. Wkly. Earn- ings		
<i>1914</i>									
July....	36,891	.....	52.8	53.3	53.6	\$.185	\$9.77	100	100
<i>1920</i>									
June....	40,116	42,546	44.6	45.2	48.3	.571	25.46	309	260
July....	38,969	41,192	43.6	45.1	48.5	.566	24.67	306	252
Aug....	36,628	38,684	43.7	44.5	48.5	.569	24.88	308	254
Sept....	37,018	39,085	43.3	44.5	48.5	.568	24.58	307	251
Oct....	36,811	38,933	43.2	44.5	48.7	.566	24.46	306	250
Nov....	35,001	36,575	40.9	41.6	48.5	.562	22.98	304	235
Dec....	33,906	35,527	40.6	41.3	48.4	.555	22.52	300	230
<i>1921</i>									
Jan....	33,707	34,911	42.8	44.9	48.4	.493	21.08	266	215
Feb....	35,328	37,149	45.4	47.3	48.5	.465	21.13	251	216
March..	35,271	37,288	45.2	47.1	48.6	.463	20.94	250	214
April...	38,457	40,854	45.8	47.4	48.5	.460	21.07	249	215
May....	40,698	43,195	47.1	48.6	48.9	.467	22.01	252	225
June...	41,651	44,385	47.5	48.6	49.0	.469	22.26	253	228
July*...	41,534	43,991	47.3	48.7	48.9	.456	21.58	246	221
Aug....	41,409	43,822	47.0	48.2	48.7	.457	21.46	247	220
Sept....	41,653	44,112	47.5	48.2	48.8	.459	21.78	248	223
Oct....	41,999	44,517	47.6	48.5	49.0	.458	21.82	248	223
Nov....	41,554	44,071	46.2	47.9	48.9	.456	21.06	246	216
Dec....	40,646	43,124	46.3	47.5	48.7	.455	21.09	246	216

*See Introduction, p. 2.

Employment

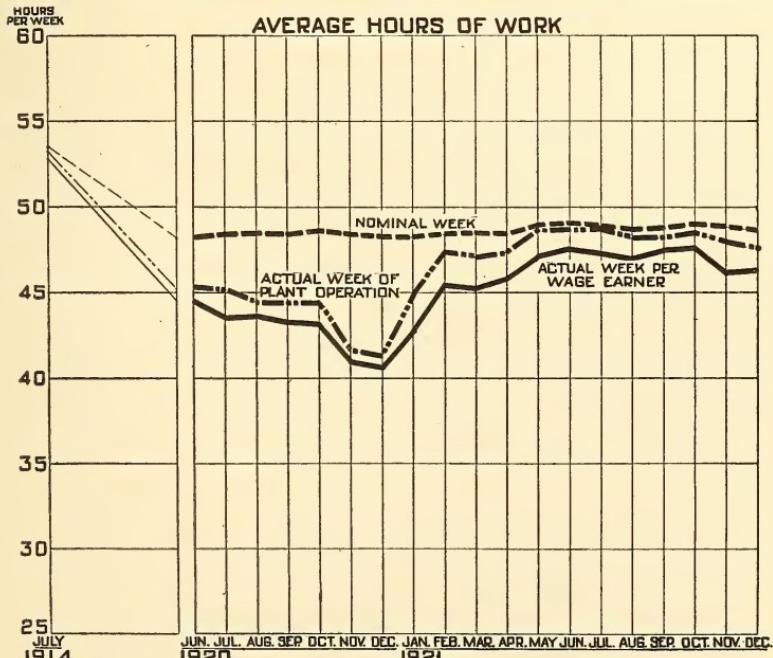
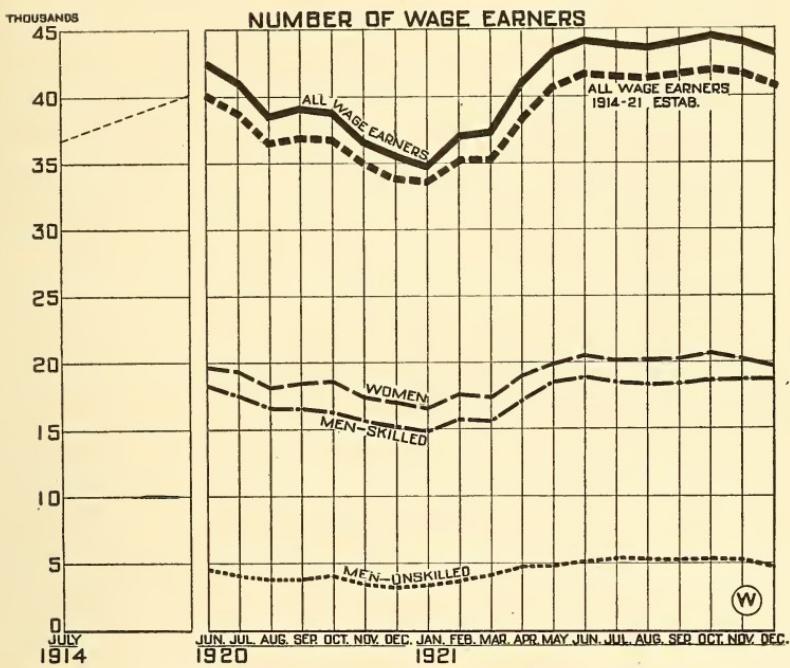
Total employment in the establishments covered increased 1.4% from June, 1920 up to the beginning of January, 1922. The percentages of increase for the three groups during this period were as follows: male common labor, 9.5%; male skilled labor, 1.9%; women, 1%. The trend of employment after the beginning of 1921 has shown a gradual rise.

Employment in identical establishments increased 10.2% between July, 1914 and the end of the year 1921.

Hours

In July, 1914, 53.6 hours constituted the *average nominal week*. By June, 1920 the nominal week had declined to 48.3

Wool Manufacturing



(National Industrial Conference Board)

hours, and a general level of between 48 and 49 hours was maintained throughout 1920-1921.

The *average hours of plant operation* decreased from 53.3 in July, 1914, to 45.2 hours in July, 1920. The next months showed slight declines, the decrease going as low as 41.3 hours in December, 1920. Beginning in January, 1921, there was a continued increase in plant activity which was well maintained through October. In November and December a slight decline in productive activity occurred. The chart showing the hours of plant operation reflects very closely the condition of the industry during the past months. The readjustment caused by deflation in prices of raw materials led to a resumption of normal plant activity early in 1921.

The *average actual week per wage earner* showed a decline from 52.8 hours in July, 1914 to 44.6 hours in June, 1920. The resumption of activity beginning in February caused an increase in working hours so that in June, 1921 the average wage earner was working almost 7 hours longer than at the close of 1920. On the whole, working hours were well sustained during the closing months of 1921.

Conclusion

The readjustment in the wool industry began in the early spring months of 1920. This period was not covered by the present report, but it is presumed that the peak in June, 1920, shown in this study, reflects approximately the same general peak for the whole industry. The general course of wages in the year and a half covered showed a gradual tendency downward. The decline in weekly earnings was not so extensive as in hourly earnings, due to the fact that longer working hours helped to maintain the weekly pay of the average employee.

The study of wages and hours in wool manufacturing shows that:

1. Average *hourly* earnings of all wage earners on January 1, 1922, stood at \$.455 or 146% above the July, 1914 level of \$.185.
2. Average *weekly* earnings of all wage earners on January 1, 1922 stood at \$21.09 or 116% above the July, 1914 level of \$9.77.

Classified Payroll Data—Wool Manufacturing

PERIOD ID	MALE UNSKILLED				MALE SKILLED				WOMEN			
	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings
1914 July..	3,974	52.0	\$187	\$9.75	100	100	15.912	54.3	\$211	\$11.48	100	100
1920												
June..	4,541	43.2	.548	23.66	293	243	18.256	46.8	.652	30.51	309	266
July..	4,163	44.0	.551	24.26	295	249	17.688	44.9	.647	29.08	307	253
Aug..	3,952	44.1	.551	24.30	295	249	16.653	45.9	.654	29.97	310	261
Sept..	3,906	43.9	.548	24.08	293	247	16.696	44.7	.654	29.25	310	255
Oct..	4,037	45.1	.549	24.75	294	254	16.383	44.2	.657	29.02	311	253
Nov..	3,512	39.7	.553	21.96	296	225	15.582	42.7	.651	27.84	309	243
Dec..	3,361	41.0	.550	22.54	294	231	15.131	42.5	.646	27.43	306	239
1921												
Jan..	3,404	44.7	.470	20.99	251	215	14.933	43.4	.575	24.94	272	217
Feb..	3,834	45.2	.459	20.72	245	213	15.810	46.6	.536	24.98	254	218
Mar.	4,264	46.8	.445	20.82	238	214	15.607	46.1	.537	24.80	254	216
April	4,826	46.3	.450	20.84	241	214	17.073	46.6	.538	25.08	255	218
May..	4,898	47.9	.443	21.25	237	218	18.536	48.0	.541	25.97	256	226
June..	5,075	48.4	.445	21.57	238	221	18.907	48.2	.545	26.30	258	229
July..	5,354	49.8	.426	21.18	228	217	18.556	47.4	.534	25.31	253	220
Aug..	5,290	50.0	.426	21.28	228	218	18.419	47.2	.536	25.30	254	220
Sept..	5,270	49.4	.422	20.83	226	214	18.462	48.5	.545	26.42	258	230
Oct..	5,300	49.0	.422	20.70	226	212	18.609	48.4	.541	26.20	256	228
Nov..	5,240	48.4	.417	20.19	223	207	18.672	47.8	.537	25.70	255	224
Dec..	4,974	48.0	.416	19.94	222	205	18.607	47.3	.534	25.27	253	220

3. Wage reductions from the peak, of 20.3% in hourly earnings and of 17.2% in weekly earnings, were in general accord with the reductions in many basic industries.
4. Earlier liquidation in prices and wages resulted in earlier resumption of productive activity.
5. An increase of 1.4% in employment from June, 1920, to the beginning of 1922, as well as the increase of 5.7 working hours between the close of 1921 and the beginning of 1922, was indicative of a return to normal conditions of production.

VIII

SILK MANUFACTURING

The data for this industry cover establishments engaged in silk throwing, spinning, weaving and finishing of silk fabrics. Returns were received from 72 plants, 67 of which supplied material for the last wage investigation. The largest number of wage earners employed in any one month in the 72 establishments was 24,646 in September, 1921. Thus, approximately 18% of the wage earners reported by the 1919 Census of Manufactures for the silk industry are covered in this report. Returns came from the centers of silk manufacturing, mainly concentrated in the eastern states, the geographical distribution being as follows:

Connecticut.....	8	New York.....	8
Massachusetts.....	8	Pennsylvania.....	29
New Jersey.....	18	Virginia.....	1

Wages

(a) *Hourly earnings:* In July, 1914, the average hourly earnings of all wage earners were \$.193. By July, 1920, they had risen 168% to \$.517. A decline of 17% took place from the latter period up to January, 1922, at which time the average hourly earnings were \$.429, an increase of 122% over July, 1914. A general high level of hourly earnings was maintained during the last half of 1920. At the beginning of 1921 a sharp reduction occurred amounting to approximately 4½ cents an hour, or 9%. The decline in hourly earnings continued during the spring and summer months of 1921. In October and November, 1921, a slight increase occurred, followed by a decline to a new low level in December.

Regarding specific groups of employees, the study shows that in July, 1914, the average hourly earnings of *male common labor* were \$.201. In September, 1920, they had increased 160% over July, 1914, to \$.523. From September, 1920, up to January, 1922, they declined 19.7% to \$.420. In July, 1914, the

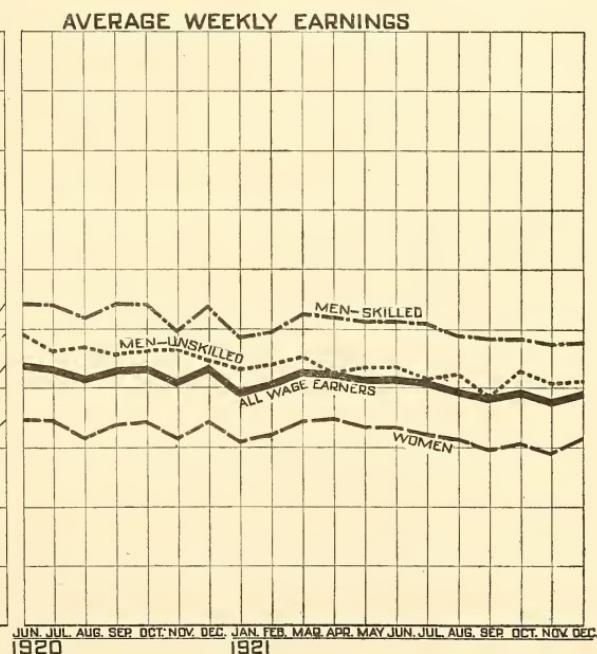
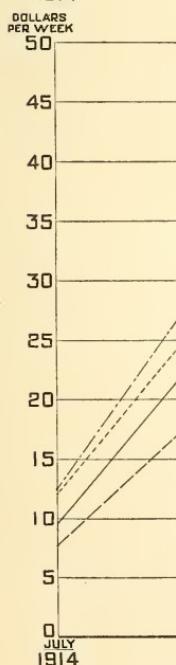
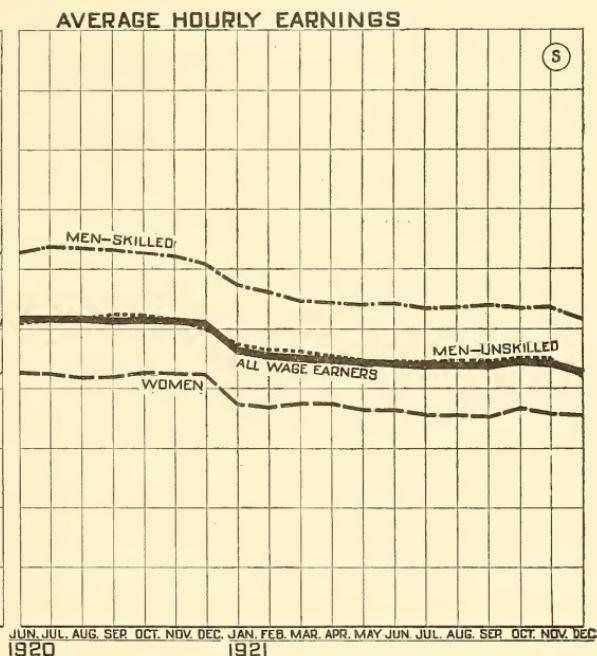
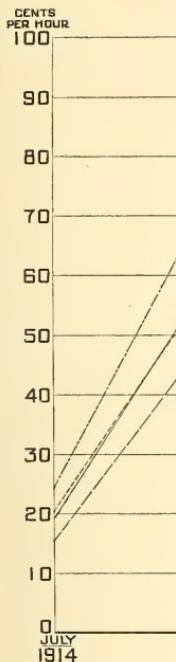
average hourly earnings of *male skilled labor* were \$.243. By July, 1920, they had increased 162% to \$.637, and from the latter period up to the beginning of 1922, declined 18.7% to \$.518. In July, 1914, the average hourly earnings of *women* were \$.153. In June and October, 1920, they reached \$.426, an increase of 178% over 1914. The decline from these peaks up to January, 1922, amounted to 16.9%, the average earnings at the beginning of 1922 being \$.354. By January, 1922, therefore, the average hourly earnings for these three groups had increased respectively, 109%, 113%, and 131% over the July, 1914 levels.

(b) *Weekly earnings:* The average weekly earnings of *all wage earners* in July, 1914, were \$9.88. By June, 1920, they had increased 122% to \$21.92. The decline from the latter period up to January, 1922 was 10.7%, at which time the average weekly earnings were \$19.57, a net increase of 98% over July, 1914. The trend of weekly earnings was marked by considerable fluctuations during the last half of 1920, reaching a low point in January, 1921. Gradual increases occurred in the spring of 1921, followed again by further declines in the summer months of 1921. The last months of 1921 were dominated by lower levels in both hourly and weekly earnings, although there was a sharp increase in weekly earnings in December, 1921.

In July, 1914, the average weekly earnings of *male common labor* were \$12.07. In June, 1920, they had risen 104% over July, 1914 to \$24.61. From June, 1920 to January, 1922 they declined 16.7%, the average weekly earnings being \$20.50 by the latter period. In July, 1914, the average weekly earnings of *male skilled labor* were \$12.41. By September, 1920 they had risen 119% to \$27.14 and from the latter period to the beginning of 1922 declined to \$23.94, or 11.8%. In July, 1914, the average weekly earnings of *women* were \$7.69. By April, 1921, they had risen 125% to \$17.33. The decline from this peak up to January, 1922, amounted to 9.5%, the average earnings at the beginning of 1922 being \$15.68. By January, 1922, therefore, the average weekly earnings for these three groups had increased respectively 70%, 93% and 104% over the July, 1914 levels.

As June, 1920 is the first period after July, 1914 covered in this report, it is quite possible that a reduction occurred prior to June, 1920, so that the actual decline in earnings from the

Silk Manufacturing



(National Industrial Conference Board)

Composite Payroll Data—Silk Manufacturing

Period One Week In	Number Wage Earners Employed		Average Hours			Wages (All Wage Earners)			
	1914-22 Establ. (41 plants)	1920-22 Establ. (72 plants)	Av. Week Per Wage Earner	Av. Hours Plant Oper- ation	Nomi- nal Week	Av. Hrly. Earnings	Av. Wkly. Earnings	Index Nos. Hrly.	Index Nos. Wkly.
<i>1914</i>									
July....	15,000	.....	51.1	54.1	54.0	\$.193	\$ 9.88	100	100
<i>1920</i>									
June....	15,150	23,514	42.5	46.1	48.1	.516	21.92	267	222
July....	14,959	22,864	41.8	45.6	47.9	.517	21.58	268	218
Aug....	14,563	22,266	40.2	44.2	48.1	.515	20.70	267	209
Sept....	14,003	21,251	41.8	44.1	47.9	.514	21.49	266	217
Oct.....	13,779	20,801	41.7	44.0	48.6	.517	21.56	268	218
Nov....	12,999	18,640	39.4	40.5	48.5	.516	20.34	267	206
Dec....	11,908	17,740	42.6	49.1	48.7	.508	21.61	263	219
<i>1921</i>									
Jan.....	11,897	18,651	42.4	49.8	48.5	.464	19.67	240	199
Feb....	12,357	20,357	44.3	49.9	48.7	.456	20.18	236	204
March..	13,659	22,296	46.8	49.6	48.1	.452	21.15	234	214
April...	14,231	23,358	46.7	49.6	48.6	.449	21.00	233	213
May....	14,372	23,914	46.8	49.7	49.1	.440	20.59	228	208
June...	14,491	24,186	46.7	49.9	48.6	.441	20.63	228	209
July*....	14,784	23,903	46.5	49.7	48.8	.437	20.32	226	206
Aug....	14,792	24,646	45.1	46.4	48.8	.439	19.82	227	201
Sept....	14,501	24,234	43.3	46.5	48.9	.440	19.05	228	193
Oct.....	13,977	23,358	43.7	46.4	48.5	.448	19.60	232	198
Nov....	13,595	22,562	42.5	46.2	48.7	.444	18.87	230	191
Dec....	13,547	22,880	45.6	46.5	48.8	.429	19.57	222	198

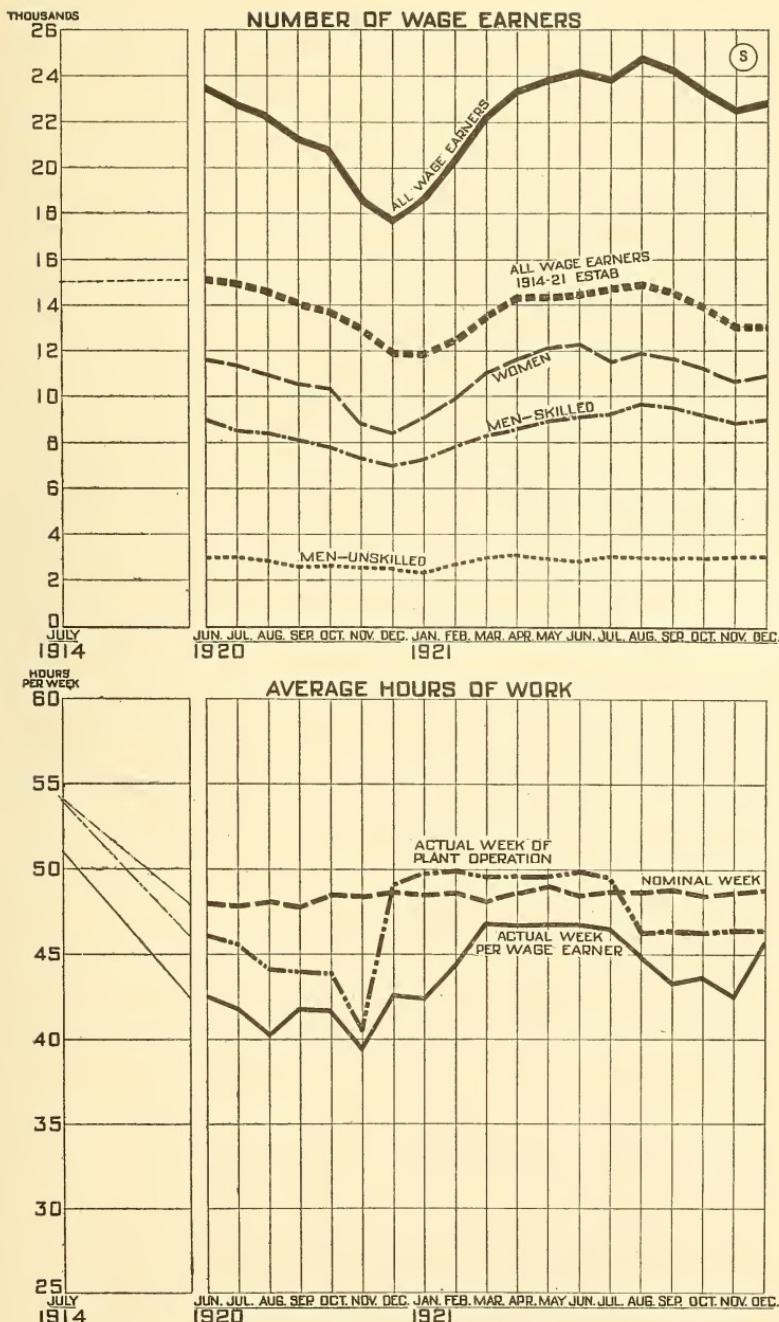
*See Introduction p. 2.

peak may be greater than that presented by the accompanying data. The year 1921 was marked by a gradual decline in earnings, more affected by curtailment of working hours than by reduction of hourly earnings.

Employment

Total employment in the establishments covered increased approximately 3% from June, 1920 up to July, 1921. This increase was sustained through September, 1921, followed by gradual declines during the remaining months of the year, so that employment at the beginning of 1922 was about 3% lower than it was in June, 1920. There were slight increases in em-

Silk Manufacturing



(National Industrial Conference Board)

ployment of male skilled and unskilled labor, and a decline in that of female labor.

Employment in identical establishments between July, 1914, and the end of the year 1921 declined about 10%.

Hours

In July, 1914, 54 hours constituted the *average nominal week*. A general reduction in working hours took place during the war period so that by June, 1920 the average hours were 48.1. A general level of between 48-49 hours was maintained up to January, 1922.

The *average hours of plant operation* in July, 1914, were 54.1. During the last half of 1920, there was a depression in plant activity, resulting in a decline to 40.5 hours in November, 1920. During December, 1920 there was a marked revival, which continued through July, 1921, followed again by declines during the last half of the year.

The *average actual week per wage earner* showed a decline from 51.1 hours in July, 1914, to 42.5 hours in June, 1920. The trend during 1920 and 1921 closely followed that of plant activity. From July, 1921 through November, 1921, there was a considerable decline, followed by a resumption of activity in December. The general stability of actual working hours helped to maintain weekly earnings at fairly well sustained levels.

Conclusion

The study of wages and hours in the silk industry shows that:

1. Average *hourly* earnings of all wage earners on January 1, 1922 stood at \$.429, or 122% above the July, 1914 level of \$.193.
2. Average *weekly* earnings of all wage earners on January 1, 1922 stood at \$19.57, or 98% above the July, 1914 level of \$9.88.
3. The decline in average hourly earnings from the peak was in general accord with wage reductions in many industries, while the maintenance of fairly regular working hours prevented severe reductions in weekly earnings.

Classified Payroll Data—Silk Manufacturing

PERIOD	MALE UNSKILLED				MALE SKILLED				WOMEN			
	No. Wage Earners	Avg. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings	No. Wage Earners	Avg. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings	No. Wage Earners	Avg. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings
One Week In												
1914 July..	763	60.1	\$201	\$12.07	100	100	6,269	51.1	\$243	\$12.41	100	7,968
1920 June..	2,938	48.3	.510	24.61	204	8,947	43.0	.628	27.01	.258	218	11,629
July..	2,957	45.0	.512	23.08	255	191	8,566	.637	.26.95	.262	217	11,341
Aug..	2,849	45.8	.513	23.42	255	194	8,461	.631	.25.98	.260	209	10,956
Sept..	2,588	43.6	.523	22.82	260	189	8,057	.631	.27.14	.259	219	10,606
Oct..	2,637	44.4	.522	23.16	260	192	7,811	.629	.27.04	.259	218	10,353
Nov..	2,509	45.0	.518	23.28	258	193	7,242	.621	.24.94	.256	201	8,889
Dec..	2,475	44.6	.500	22.33	249	185	6,931	.606	.26.81	.249	216	8,334
1921 Jan..	2,303	45.5	.474	21.56	236	179	7,220	.42.4	.572	.24.28	235	9,128
Feb..	2,684	47.1	.466	21.96	232	182	7,714	.44.2	.562	.24.83	231	9,959
Mar..	2,991	46.1	.461	22.55	229	187	8,239	.47.4	.548	.26.02	226	11,066
April..	3,084	46.8	.455	21.27	226	176	8,576	.47.4	.547	.25.90	225	11,698
May..	2,948	48.4	.449	21.74	223	180	8,902	.47.2	.541	.25.51	223	12,064
June..	2,868	48.7	.448	21.80	223	181	9,040	.47.1	.543	.25.57	223	206
105												
July*	3,080	46.7	.443	20.68	220	171	9,298	.47.5	.535	.25.42	220	205
Aug..	3,037	47.3	.448	21.17	223	175	9,634	.45.8	.536	.24.55	221	198
Sept..	3,013	43.3	.444	19.22	221	159	9,523	.44.5	.541	.24.09	223	194
Oct..	2,988	47.4	.454	21.49	226	178	9,193	.45.0	.538	.24.20	221	195
Nov..	3,011	45.4	.449	20.41	223	169	8,858	.44.0	.537	.23.62	221	190
Dec..	3,064	48.8	.420	20.50	209	170	8,983	.46.2	.518	.23.94	213	193

*See Introduction, p. 2.

4. At the beginning of 1922, employment in the silk industry was only about 3% below the level of June, 1920, reflecting fairly stable conditions.

5. A marked revival of activity during the first half of 1921 was followed by depression in the latter half of that year.

IX

HOSIERY AND KNIT GOODS MANUFACTURING

The wage investigation in this industry included establishments manufacturing hosiery, underwear, sweaters and other knitted wear. While conditions varied considerably between hosiery and underwear plants, wage differentials were reflected only in the earnings of common labor. The composite group, therefore, made up of both hosiery and underwear plants, has been used for this investigation. Returns were received from 80 plants, 69 of which furnished information for the last wage investigation. The largest number of wage earners employed in any one month in the 80 establishments was 22,737 in June, 1920. The geographical distribution within 15 states is as follows:

Connecticut.....	3	North Carolina.....	2
Georgia.....	1	Ohio.....	4
Maryland.....	1	Pennsylvania.....	24
Massachusetts.....	4	South Carolina.....	1
Michigan.....	4	Utah.....	1
Minnesota.....	2	West Virginia.....	1
New Jersey.....	2	Wisconsin.....	5
New York.....	25		

Wages

(a) *Hourly earnings:* In July, 1914, the average hourly earnings of *all wage earners* were \$.179. By June, 1920, they had increased 155% to \$.456. The decline was 14.5% from the latter period up to January, 1922, when the average hourly earnings were \$.390, an increase of 118% over July, 1914. A stationary condition of hourly earnings existed through 1920, with a reduction of approximately 10% occurring in January, 1921. The year 1921 showed a practically unchanged situation.

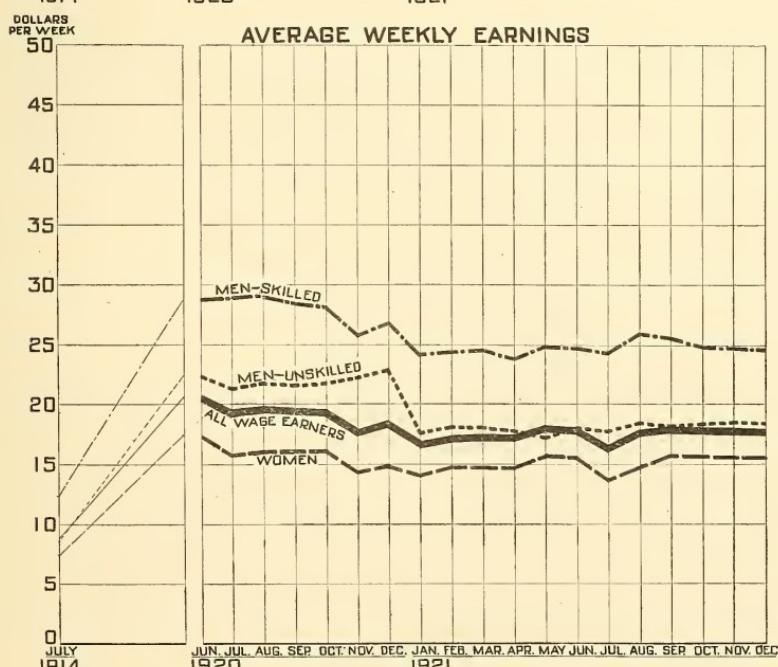
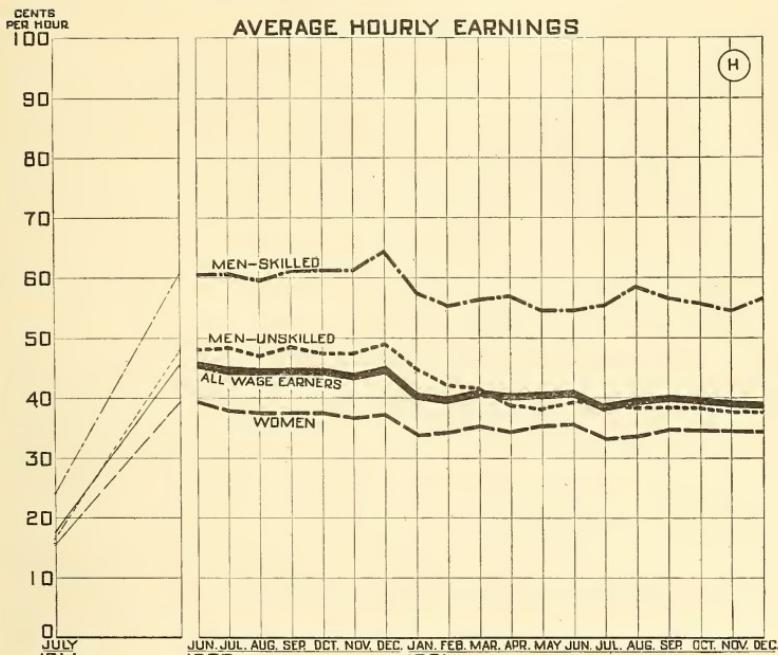
In July, 1914 the average hourly earnings of *male common labor* were \$.163. By December, 1920, they had increased 202%

to \$.492. The decline from the latter period up to January, 1922 was 22.2% to \$.376. In July, 1914, the average hourly earnings of *male skilled labor* were \$.242. By December, 1920 they had increased 165% to \$.642, declining 12.1% to \$.564 from the latter period up to the beginning of 1922. In July, 1914, the average hourly earnings of *women* were \$.159. By June, 1920, they had increased 148% to \$.395. The decline from this peak up to the beginning of 1922 amounted to 13.2%, leaving the average earnings \$.343. By January, 1922, therefore, the average hourly earnings of the three groups had increased respectively 131%, 133% and 116% over the July, 1914 level.

(b) Weekly earnings: The average weekly earnings of *all wage earners* in July, 1914 were \$8.59. By June, 1920, they had increased 140% to \$20.59. The decline amounted to 14.3% from the latter period up to July, 1922, when the average weekly earnings were \$17.65, a net increase of 105% over July, 1914. Weekly earnings remained practically stationary through October, 1920. In November, 1920, there was considerable reduction due to shorter working hours, and the opening months of 1921 showed continued depression. The fluctuations occurring during the remainder of 1921 were due to the variation in the length of working hours. Weekly earnings were only moderately affected by the decline in hourly earnings.

In July, 1914, the average weekly earnings of *male common labor* were \$8.54. By December, 1920, they had increased 166% to \$22.71. The decline from this period up to January, 1922 amounted to 17.9%, at which time the average weekly earnings were \$18.35. In July, 1914, the average weekly earnings of *male skilled labor* were \$12.36. By August, 1920, they had increased 135% to \$29.01, and then declined 14.9% to \$24.69 from the latter period up to 1922. In July, 1914, the average weekly earnings of *women* were \$7.40. By June, 1920, they had increased 135% to \$17.41. The decline from this peak up to 1922 amounted to 11%, the average earnings at the latter time being \$15.49. In January, 1922, therefore, weekly earnings for the three groups had increased respectively 115%, 100% and 109% over the July, 1914 levels.

Hosiery and Knit Goods Manufacturing



(National Industrial Conference Board)

*Composite Payroll Data—Hosiery and Knit Goods
Manufacturing*

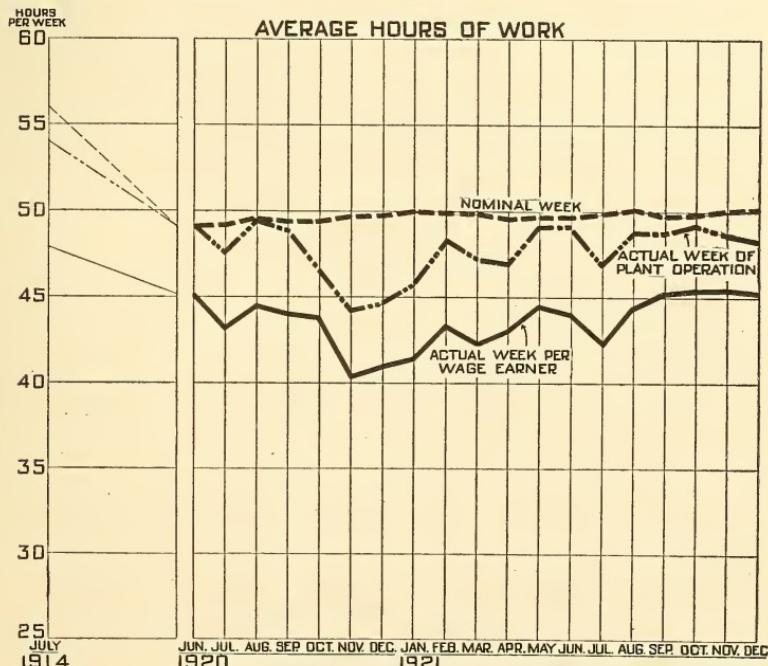
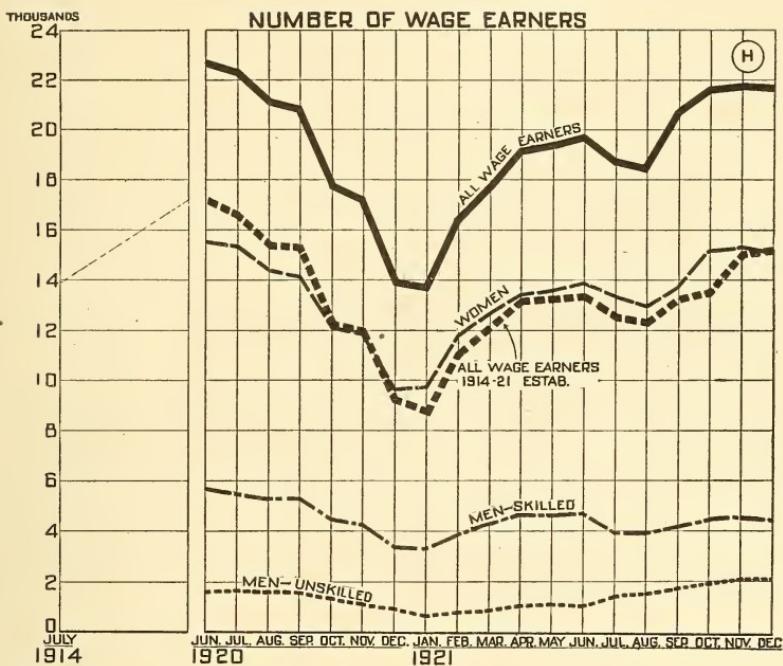
Period	Number Wage Earners Employed		Average Hours			Wages (All Wage Earners)			Index Nos. Hrly.	Index Nos. Wkly.
	1914-22 Establ. (48 plants)	1920-22 Establ. (80 plants)	Av. Week Per Wage Earner	Av. Hours Plant Opera- tion	Nomi- nal Week	Av. Hrly. Earn- ings	Av. Wkly. Earn- ings			
<i>1914</i>										
July....	13,934	.....	47.9	54.1	56.1	\$.179	\$.859	100	100	
<i>1920</i>										
June....	17,156	22,737	45.1	49.3	49.1	.456	20.59	255	240	
July....	16,560	22,330	43.3	47.6	49.2	.448	19.41	250	226	
Aug....	15,353	21,116	44.5	49.4	49.6	.441	19.63	246	229	
Sept....	15,257	20,816	44.0	48.9	49.4	.444	19.57	248	228	
Oct....	12,114	17,764	43.8	46.5	49.4	.445	19.48	249	227	
Nov....	11,967	17,145	40.3	44.3	49.7	.438	17.66	245	206	
Dec....	9,204	13,962	40.9	44.6	49.7	.448	18.32	250	213	
<i>1921</i>										
Jan....	8,766	13,700	41.4	45.7	50.0	.402	16.64	225	194	
Feb....	10,961	16,392	43.3	48.3	49.9	.398	17.23	222	201	
March..	12,072	17,777	42.3	47.2	49.8	.408	17.29	228	201	
April...	13,136	19,124	43.0	47.0	49.6	.400	17.19	223	200	
May....	13,184	19,358	44.5	49.1	49.7	.404	17.96	226	209	
June....	13,248	19,709	44.0	49.1	49.7	.406	17.86	227	208	
July*....	12,486	18,792	42.3	46.9	49.9	.386	16.31	216	190	
Aug....	12,232	18,420	44.4	48.8	50.1	.394	17.53	220	204	
Sept....	13,267	19,611	45.1	48.8	49.8	.399	17.98	223	209	
Oct....	13,522	21,552	45.3	49.2	49.8	.394	17.83	220	208	
Nov....	14,929	21,723	45.4	48.7	50.0	.391	17.75	218	207	
Dec....	15,042	21,515	45.2	48.2	50.1	.390	17.65	218	205	

*See Introduction, p. 2.

Employment

Total employment in the establishments covered declined 5.4% from June, 1920 to January, 1922. During this time male common labor increased 31.1%, while male skilled labor declined 22.4% and women 2.9%. The increase in common labor during this period is probably attributable to the fact that many companies changed the status of skilled and semi-skilled laborers to those of common laborers on their payrolls. The depression period of employment was reached at the beginning of 1921. Employment increased during 1921, particularly in the last three months.

Hosiery and Knit Goods Manufacturing



(National Industrial Conference Board)

Employment in identical establishments between July, 1914, and the end of the year 1921 increased 8%.

Hours

In July, 1914, 56.1 hours constituted the *average nominal week*. Following the general reduction of working hours during the war period, there was a drop to 49.1 hours in June, 1920. At this point, the hours of plant operation were above those of the nominal week. A general level of from 49–50 hours has been maintained up to January, 1922.

The *average hours of plant operation* decreased from 54.1 to 49.3 in June, 1920. Plant activity was well sustained through September, 1920. The remaining months of that year showed a decline, but there was a revival during January and February of 1921. The remaining months of 1921 showed considerable fluctuations, but there was a general tendency to increased activity during the year.

The *average actual week per wage earner* showed a decline from 47.9 in July, 1914, to 45.1 hours in June, 1921. There was a marked decline in working hours during 1920, apparently due to the industrial depression. The year 1921 showed continued improvement, though there were fluctuations, due chiefly to piece-work production.

Conclusion

The study of wages and hours in hosiery and knit goods manufacturing shows that:

1. Average *hourly* earnings of all wage earners on January 1, 1922 stood at \$.390, or 118% above the July, 1914 level of \$.179.
2. The average *weekly* earnings of all wage earners on January 1, 1922 stood at \$17.65 or 105% above the 1914 level of \$8.59.
3. The decline from the peak, of 14.3% in weekly earnings was far less than the reductions in many other basic industries, particularly the textile group.

Classified Payroll Data—Hosiery and Knit Goods Manufacturing

PERIOD	MALE UNSKILLED				MALE SKILLED				WOMEN			
	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Av. Weekly Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Av. Weekly Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Av. Weekly Earnings
One Week In												
1914												
July ..	1,026	52.5	\$.163	\$8.54	100	100	3,117	51.1	\$242	\$12.36	100	100
1920												
June ..	1,597	46.6	.480	22.35	294	262	5,662	47.5	.605	28.78	250	233
July ..	1,618	44.1	.483	21.32	296	250	5,404	47.5	.608	28.91	251	234
Aug ..	1,559	46.2	.470	21.71	288	254	5,212	48.6	.597	29.01	247	235
Sept ..	1,516	44.5	.482	21.46	296	251	5,207	46.6	.611	28.48	252	235
Oct ..	1,249	46.0	.472	21.70	290	254	4,451	45.7	.614	28.07	254	227
Nov ..	1,061	46.7	.475	22.14	291	259	4,211	42.2	.612	25.83	253	209
Dec ..	971	46.2	.492	22.71	302	266	3,357	41.7	.642	26.76	265	217
1921												
Jan ..	616	39.8	.442	17.58	271	206	3,306	41.7	.579	24.11	239	195
Feb ..	749	42.8	.422	18.04	259	211	3,920	44.0	.554	24.35	229	197
Mar ..	813	42.9	.419	18.01	257	211	4,269	43.4	.565	24.50	233	198
April ..	1,032	45.5	.390	17.73	239	208	4,649	41.9	.570	23.88	236	193
May ..	1,104	45.3	.382	17.28	234	202	4,655	45.7	.547	24.99	226	202
June ..	1,024	45.2	.397	17.96	244	210	4,750	45.4	.548	24.87	226	201
July *	1,472	46.0	.385	17.73	236	208	3,988	43.7	.557	24.30	230	197
Aug ..	1,513	48.1	.383	18.44	235	216	3,964	44.3	.586	25.92	242	210
Sept ..	1,708	46.9	.387	18.17	237	213	4,162	44.8	.569	25.52	235	206
Oct ..	1,929	47.9	.383	18.36	235	215	4,473	44.7	.559	24.99	231	202
Nov ..	2,004	48.7	.379	18.46	233	216	4,511	45.5	.546	24.84	226	201
Dec ..	2,093	48.8	.376	18.35	231	215	4,394	43.8	.564	24.69	233	200

4. Employment declined 5.4% from June, 1920 up to the beginning of 1922, due chiefly to layoffs in the male skilled group.
5. Increased working hours and employment in hosiery manufacturing indicated an approach to normal activity at the end of 1921.

X

RUBBER MANUFACTURING

The data for this industry cover establishments engaged in the manufacture of rubber tires, rubber footwear, mechanical rubber goods, rubberized fabrics and sundries. Returns were received from 80 plants, 77 of which furnished data for the last wage investigation. The largest number of wage earners employed in any one month in the 80 establishments was 73,501 in June, 1920. Thus, over 41% of the wage earners reported by the 1919 Census of Manufactures for the rubber industry are covered in this report. The majority of the plants are in the largest centers of rubber manufacturing. The geographical distribution within 16 states is as follows:

California.....	1	Michigan.....	1
Connecticut.....	8	New Jersey.....	10
Delaware.....	2	New York.....	7
Illinois.....	1	Ohio.....	19
Indiana.....	1	Oregon.....	1
Iowa.....	1	Pennsylvania.....	6
Maryland.....	1	Rhode Island.....	4
Massachusetts.....	15	Wisconsin.....	2

Wages

(a) Hourly earnings: In July, 1914, the average hourly earnings of *all wage earners* were \$.256. By June, 1920, they had risen 174% to \$.702. The decline from the latter period up to January, 1922 amounted to 24.4%, at which time the average hourly earnings were \$.531, an increase of 107% over July, 1914. The general high level of hourly earnings was maintained through October, 1920. In November occurred a decrease of 2.3 cents, followed in December by a further reduction of 2 cents. In February, 1921, occurred a still further reduction of 2.1 cents, while the largest decrease during the last six months of 1921 occurred in September, when there was a decline of 3.8 cents. The general trend of hourly earnings was

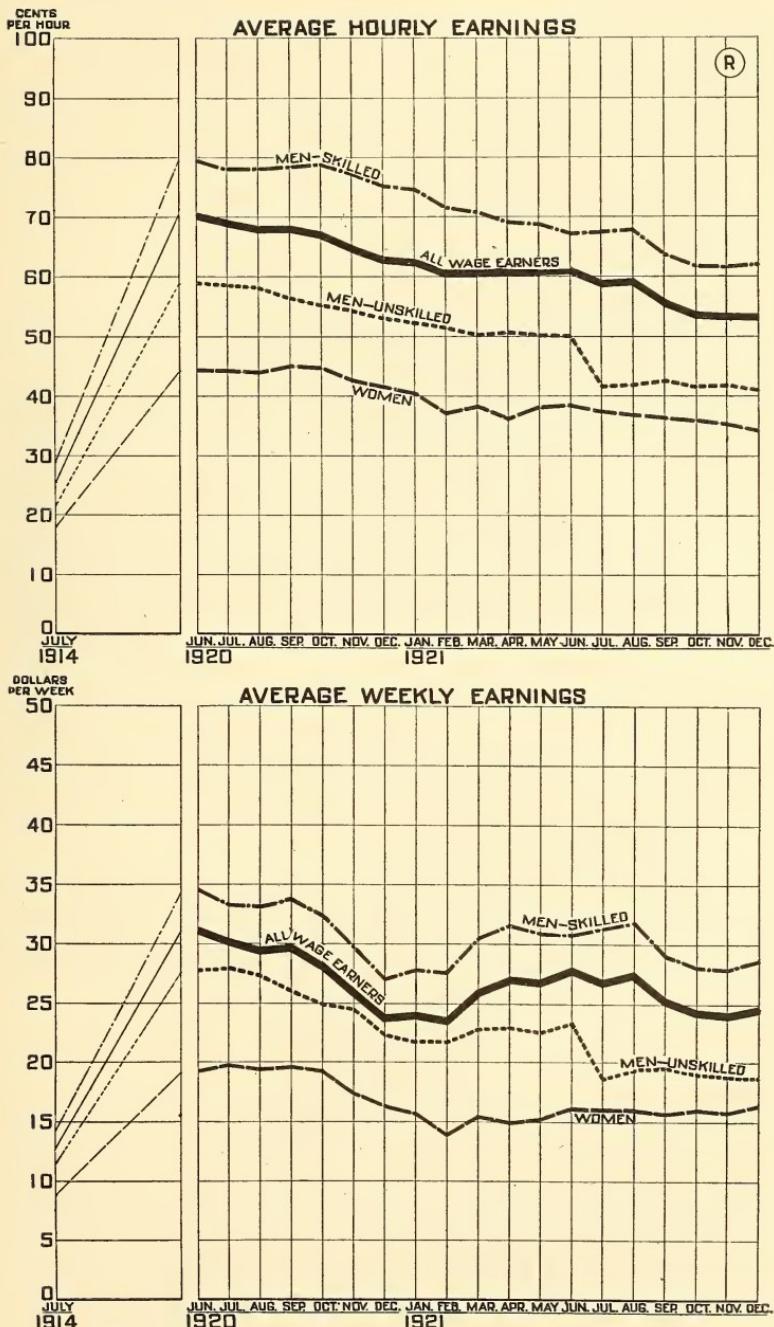
steadily downward during 1920 and 1921, dominated by the reductions in the periods noted.

In July, 1914 the average hourly earnings of *male common labor* were \$.218. By June, 1920, they had increased 170% to \$.589. The decline from the latter period up to January, 1922 was 30.7% to \$.408. In July, 1914, the average hourly earnings of *male skilled labor* were \$.288. By June, 1920, they had risen 176% to \$.794, declining 22% to \$.619 from the latter period up to the beginning of 1922. In July, 1914, the average hourly earnings of *women* were \$.180. In September, 1920, they had risen 149% to \$.449. The decline from this peak up to January, 1922 amounted to 23.8%, the average earnings at the beginning of 1922 being \$.342. By January, 1922, therefore, the average hourly earnings for these three groups had increased respectively 87%, 115% and 90% over the July, 1914 levels.

(b) Weekly earnings: The average weekly earnings of *all wage earners* in July, 1914 were \$12.75. By June, 1920, they had increased 144% to \$31.09. The decline from the latter period up to January, 1922 was 20.7%, at which time the average weekly earnings were \$24.66, a net increase of 93% over July, 1914. The trend of weekly earnings has been affected both by reductions in hourly earnings and working hours. Industrial conditions in the automobile industry have had a dominant influence upon rubber manufacturing. The majority of wage schedules covered in this investigation came from rubber tire manufacturers whose productive activity is dependent upon conditions in the automobile industry.

In July, 1914 the average weekly earnings of *male common labor* were \$11.56. By July, 1920 they had increased 142% to \$27.96. From the latter period up to January, 1922 they declined 33.2% to \$18.69. In July, 1914, the average weekly earnings of *male skilled labor* were \$14.27. In July, 1920, they had increased 142% to \$34.57, then declining 17.5% to \$28.54 from the latter period up to the beginning of 1922. In July, 1914, the average weekly earnings of *women* were \$8.79. In July, 1920, they had increased 124% to \$19.65. The decline from this peak up to January, 1922 amounted to 16.8%, the average earnings at the beginning of 1922 being \$16.35.

Rubber Manufacturing



(National Industrial Conference Board)

Composite Payroll Data—Rubber Manufacturing

Period One Week In	Number Wage Earners Employed		Average Hours			Wages (All Wage Earners)			
	1914-21 Establ. (49 plants)	Total All Establ. (80 plants)	Av. Week Per Wage Earner	Av. Hours Plant Operation	Nomi- nal Week	Av. Hrly. Earnings	Av. Wkly. Earnings	Index Nos. Earnings	
							Hrly.	Wkly.	
<i>1914</i>									
July....	23,535	.....	49.9	52.5	52.8	\$.256	\$12.75	100	100
<i>1920</i>									
June....	56,415	73,501	44.3	44.4	48.4	.702	31.09	274	244
July....	52,769	65,844	43.6	44.1	48.3	.690	30.14	270	236
Aug....	44,100	53,434	43.3	44.3	48.2	.681	29.51	266	231
Sept....	38,265	47,164	43.6	44.8	48.4	.680	29.65	266	233
Oct....	35,084	42,502	42.0	43.9	48.2	.671	28.21	262	221
Nov....	29,999	36,713	39.8	41.3	48.1	.648	25.82	253	203
Dec....	27,193	32,800	37.6	39.4	48.1	.628	23.62	245	185
<i>1921</i>									
Jan....	25,602	31,074	38.2	40.6	48.6	.626	23.90	245	187
Feb....	22,734	28,930	38.9	40.7	48.1	.605	23.52	236	184
Mar....	24,030	31,078	42.8	44.5	48.9	.605	25.88	236	203
April....	25,903	35,317	44.7	45.8	48.9	.606	26.98	237	212
May....	27,993	38,812	43.9	46.3	48.7	.608	26.68	238	209
June....	22,714	33,170	45.4	46.4	48.9	.611	27.75	239	218
July*....	28,758	40,665	45.5	45.9	47.1	.590	26.80	230	210
Aug....	29,223	43,305	46.2	46.9	47.4	.594	27.44	232	215
Sept....	28,223	42,555	45.3	47.7	47.5	.556	25.20	217	198
Oct....	29,625	41,552	45.4	47.5	47.3	.536	24.29	209	191
Nov....	29,704	40,527	45.1	47.3	47.5	.533	24.06	208	189
Dec....	30,481	41,873	46.4	47.1	47.6	.531	24.66	207	193

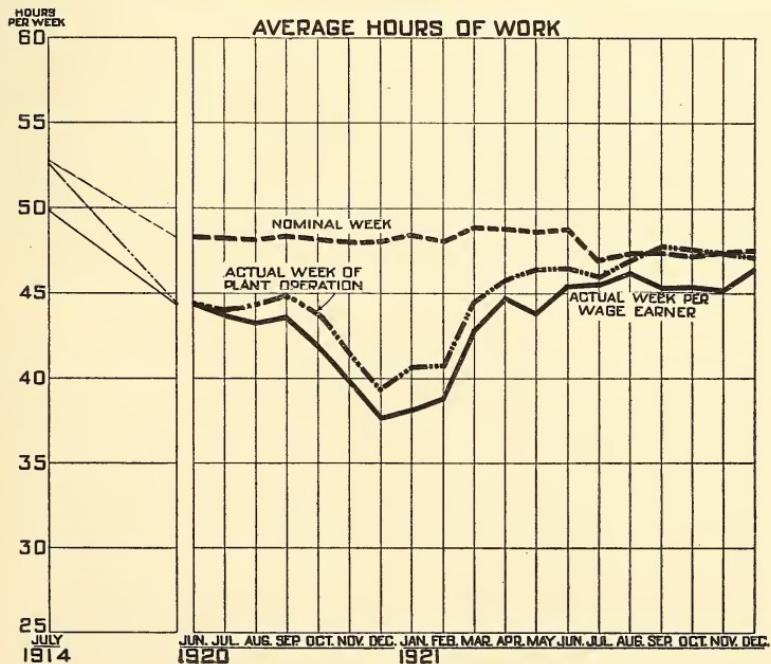
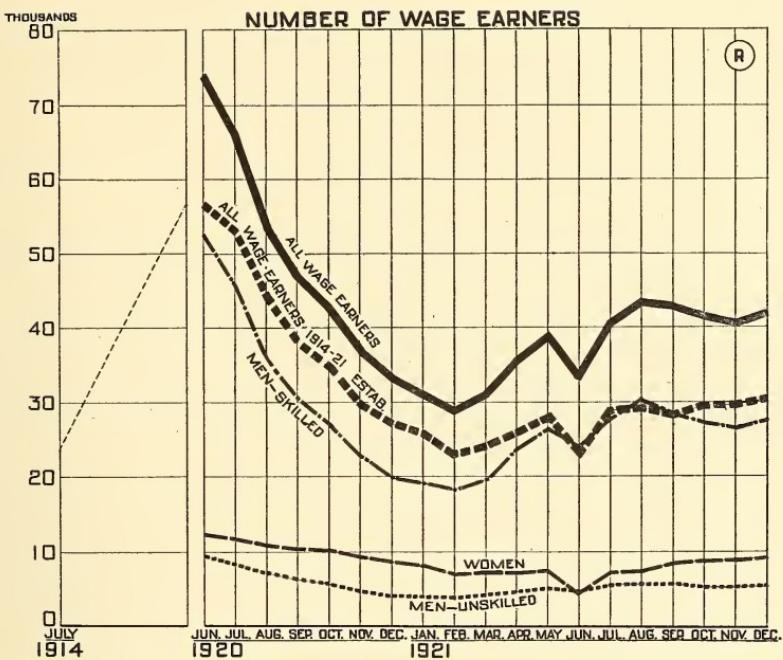
*See Introduction, p. 2.

By January, 1922, therefore, the average weekly earnings for these three groups had increased respectively 62%, 100% and 86% over the July, 1914 levels.

Employment

Total employment in the establishments covered declined 43% from June, 1920 up to the beginning of 1922. There was a steady decline from the peak through February, 1921. April and May showed an increased number of employees, followed by another decline in June. The last six months of 1921 showed more or less fluctuating, but on the whole, steadily improving conditions in regard to the number of people employed. The percentages of decline in the three groups from

Rubber Manufacturing



(National Industrial Conference Board)

June, 1920 up to the beginning of 1922 were: male common labor, 41%; male skilled labor, 47.2%; women, 27.1%.

Employment in identical establishments between July, 1914, and the end of the year 1921 increased 29.5%.

Hours

In July, 1914, 52.8 hours constituted the *average nominal week*. Following the general reduction of hours during the war period, the nominal week declined 48.4 hours in June, 1920, and the latter level of more than 48 hours was maintained through June, 1921. In July, 1921, there was a decline to 47.1 hours, which continued until the close of the year due to reduction of hours in several of the larger plants.

The *average hours of plant operation* in July, 1914, were 52.5. In June, 1920, they had dropped to 44.4. Between June and December, 1920 there was a decline of 5 hours in plant activity. The year 1921 was marked by steady improvement in plant activity, so that in December, 1921, the average plant was operating 2.7 hours longer than in June, 1920.

The *average actual week per wage earner* declined from 49.9 hours in July, 1914 to 44.3 hours in June, 1920. The slump in productive activity began to take effect in November, 1920, and the trough of 37.6 hours per week was reached in December. The trend of working hours closely followed that of plant activity, showing improved conditions throughout 1921, particularly during the closing months.

Conclusion

The study of wages and hours in the rubber manufacturing industry shows that:

1. Average *hourly* earnings of all wage earners on January 1, 1922 stood at \$.531, or 107% above the July, 1914 level of \$.256.
2. Average *weekly* earnings of all wage earners on January 1, 1922 stood at \$24.66, or 93% above the July, 1914 level of \$12.75.

Classified Payroll Data—Rubber Manufacturing

PERIOD	MALE UNSKILLED						MALE SKILLED						WOMEN					
	No. Week In	Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Av. Weekly Earnings	Index Nos. Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Av. Weekly Earnings	Index Nos. Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Av. Weekly Earnings	Index Nos. Earnings	No. Wage Earners	
1914	July..	3,693	53.1	\$ 218	\$11.56	100	100	15,465	49.5	\$ 288	\$14.27	100	100	4,677	48.7	\$ 180	\$8.79	100
1920	June..	9,018	46.8	.589	27.54	270	238	52,105	43.6	.794	34.57	276	242	12,378	43.1	.442	19.04	246
	July..	8,419	47.7	.586	27.96	269	242	45,657	42.6	.780	33.25	271	233	11,768	44.7	.440	19.65	244
	Aug..	7,000	47.1	.582	27.39	267	237	35,440	42.4	.781	33.09	271	232	10,994	44.0	.439	19.54	244
	Sept..	6,229	46.0	.563	25.91	258	224	30,575	43.1	.785	33.84	273	10,360	43.5	.449	19.54	249	
	Oct..	5,620	45.2	.551	24.91	253	215	26,764	41.0	.788	32.32	274	226	10,118	43.0	.447	19.20	248
	Nov..	4,679	45.1	.544	24.55	250	212	22,591	38.4	.772	29.62	268	208	9,443	40.8	.426	17.36	237
	Dec..	4,035	41.7	.532	22.18	244	192	19,983	36.1	.752	27.15	261	190	8,782	39.3	.414	16.25	185
1921	Jan...	3,918	41.2	.523	21.57	240	187	19,152	37.4	.744	27.84	258	195	8,004	38.7	.404	15.61	224
	Feb...	3,798	42.1	.514	21.64	236	187	18,189	38.6	.714	27.55	248	193	6,943	37.7	.371	14.01	206
	Mar...	4,167	45.2	.502	22.66	230	196	19,638	43.2	.706	30.47	245	214	7,273	40.3	.380	15.34	211
	Apr...	4,727	45.2	.505	22.83	232	197	23,418	45.7	.690	31.53	240	221	7,172	41.1	.363	14.90	202
	May...	5,023	44.7	.501	22.39	230	194	26,215	44.9	.687	30.84	239	216	7,574	39.7	.381	15.14	212
	June...	4,699	46.7	.500	23.37	229	202	23,935	45.8	.672	30.82	234	216	4,536	41.9	.384	16.08	213
	July*	5,503	44.6	.416	18.58	191	161	27,956	46.3	.674	31.21	234	219	7,206	42.8	.374	15.99	208
	Aug..	5,519	46.0	.419	19.27	192	167	30,359	46.9	.676	31.74	235	222	7,427	43.5	.367	15.99	204
	Sept..	5,640	45.9	.425	19.51	195	169	36,430	45.9	.636	29.19	221	205	8,485	43.2	.362	15.64	201
	Oct..	5,375	45.8	.415	19.00	190	164	27,219	45.5	.616	28.07	214	197	8,958	44.5	.359	15.98	199
	Nov..	5,175	45.0	.417	18.77	191	162	26,533	45.3	.615	27.87	214	195	8,819	44.6	.352	15.69	196
	Dec..	5,321	45.8	.408	18.69	187	162	27,526	46.1	.619	28.54	215	200	9,026	47.8	.342	16.35	190

*See Introduction, p. 2.

3. The decline of 24.4% in hourly earnings and 20.7% in weekly earnings was in general accord with wage reductions in many basic industries.

4. There was a total decline in employment of 43% between June, 1920 and the beginning of 1922.

5. The depression period in the industry occurred during the closing months of 1920, and the year 1921 showed considerable improvement in productive activity, working hours and employment.

XI

LEATHER TANNING AND FINISHING

The investigation covered establishments engaged in the tanning and finishing of leather hides, but did not include the manufacturers of leather. Returns were received from 70 of the 75 plants which supplied material for the last wage investigation. The largest number of wage earners employed in any one month in 70 establishments was 10,280 in June, 1920. Thus, approximately 13% of the wage earners reported by the 1919 Census of Manufactures for the leather tanning industry are covered in this report. The geographical distribution within 22 states is as follows:

California.....	7	New Jersey.....	3
Connecticut.....	2	New York.....	7
Delaware.....	1	North Carolina.....	2
Illinois.....	3	Ohio.....	4
Maine.....	3	Oregon.....	1
Maryland.....	1	Pennsylvania.....	6
Massachusetts.....	15	Tennessee.....	1
Michigan.....	2	Virginia.....	1
Minnesota.....	1	Washington.....	1
Missouri.....	1	West Virginia.....	1
New Hampshire.....	1	Wisconsin.....	6

There are peculiar difficulties connected with any compilation of wage data in the leather tanning industry. The greater proportion of the work in tanneries is of "muscle" labor requiring more or less skill. Therefore, the dividing line of occupational classification between common and skilled labor is difficult to fix. In the second place, the proportion of women is small, and the data for this group, therefore, are relatively unimportant. Finally, in many plants, men are employed, in the course of one day, on both day and piece work. This combination of piece rates and per diem earnings makes data on average hourly earnings of minor significance.

Wages

(a) Hourly earnings: In July, 1914, the average hourly earnings of all wage earners was \$.214. By August, 1920, they

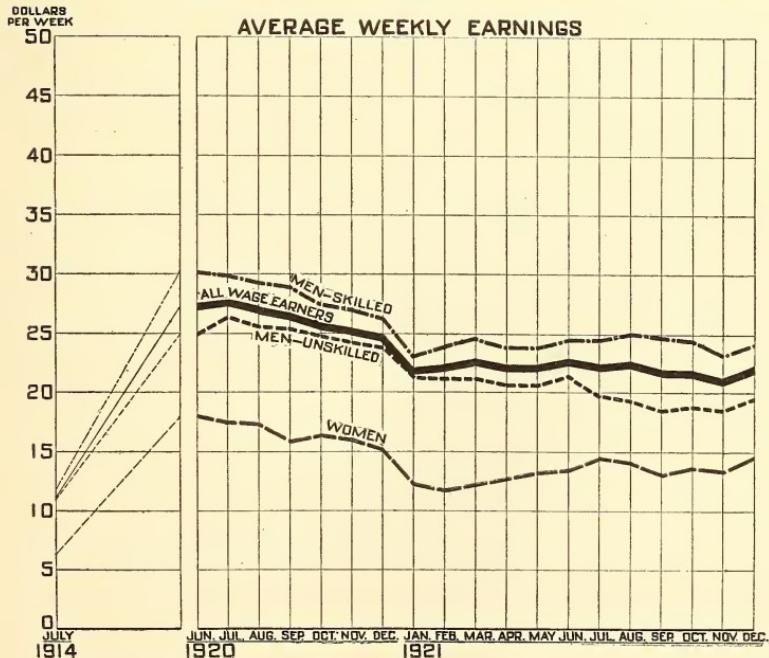
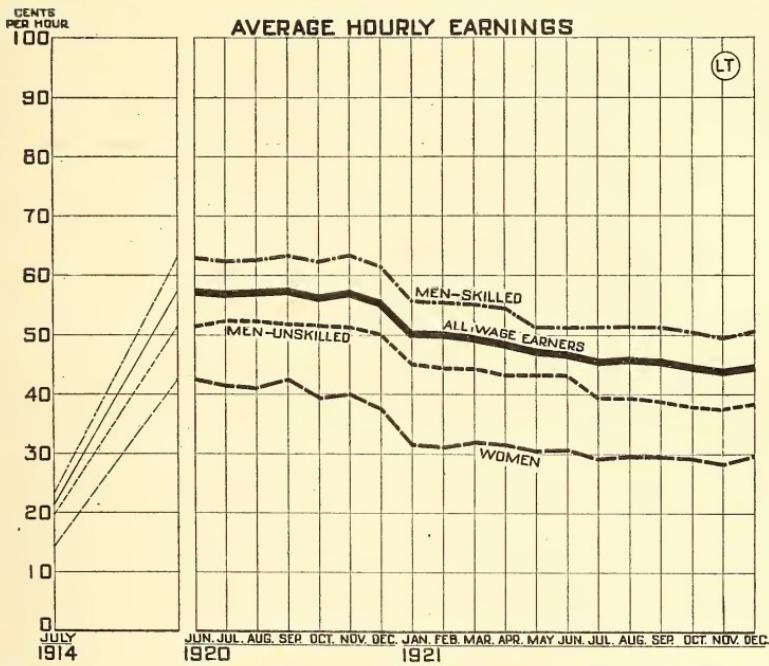
had increased 168% over July, 1914 to \$.573. Hourly earnings declined 22.2% from the latter period up to January, 1922, at which time the average hourly earnings were \$.446, an increase of 108% over 1914. The general high level of hourly earnings was held during the last half of 1920. The beginning of 1921 was characterized by a general 10% reduction followed by gradual declines throughout the rest of the year. The low point occurred in November, 1921.

In July, 1914, the average hourly earnings of *male common labor* were \$.199. In August, 1920, they had increased 163% over July, 1914, to \$.523. From the latter period up to January, 1922, they declined 26.6% to \$.384. In July, 1914, the average hourly earnings of *male skilled labor* were \$.235. By September and November, 1920 they had risen 170% to \$.634, declining to \$.503, or 20.7% from the latter period up to the beginning of 1922. In July, 1914, the average hourly earnings of *women* were \$.146. In June, 1920, they reached \$.427, an increase of 192%. The decline from this peak up to January, 1922 amounted to 30.7%, the average earnings at the beginning of 1922 being \$.296. By January, 1922, therefore, the average hourly earnings of these three groups had increased respectively 93%, 114% and 103% over the July, 1914 levels.

(b) Weekly earnings: Average weekly earnings of *all wage earners* in July, 1914 were \$11.24. By July, 1920 they had increased 146% to \$27.69. There was a gradual decline during the last half of 1920. At the beginning of 1921 there was a greater decline, due to the reduction in hourly earnings. The decline from July, 1920 up to January, 1922 was 20.8%, at which time the average weekly earnings were \$21.93, a net increase of 95% over July, 1914. The general level of \$22.00 was maintained throughout 1921, due to the fact that though there was a decline in hourly earnings, working hours increased.

In July, 1914, average weekly earnings of *male common labor* were \$11.01. In June, 1920, they had increased 140% to \$26.46. From the latter period up to January, 1922, they declined 26.2% to \$19.54. In July, 1914, average weekly earnings of *male skilled labor* were \$11.92. By June, 1920 they had increased 153% to \$30.20, then declining 20% to \$24.16 from the latter period up to the beginning of 1922. In July, 1914, the aver-

Leather Tanning and Finishing



(National Industrial Conference Board)

Composite Payroll Data—Leather Tanning and Finishing

Period One Week In	Number Wage Earners Employed		Average Hours			Wages (All Wage Earners)			Index Nos. Earnings	
	1914-22 Establ. (58 plants)	1920-22 Establ. (70 plants)	Av. Week Per Wage Earner	Av. Hours Plant Operation	Nominal Week	Av. Hrly. Earn- ings	Av. Wkly. Earn- ings	Hrly.	Wkly.	
<i>1914</i>										
July....	7,521	....	52.5	56.7	57.6	\$.214	\$.11.24	100	100
<i>1920</i>										
June....	8,763	10,280	47.7	49.3	50.3	.572	27.27	267	243	
July....	8,109	9,576	48.6	50.7	50.4	.570	27.69	266	246	
Aug....	7,792	9,229	47.4	50.0	50.3	.571	27.07	267	241	
Sept....	7,398	8,669	46.4	50.3	50.8	.573	26.58	268	236	
Oct....	6,788	8,149	45.4	48.7	50.6	.565	25.65	264	228	
Nov....	6,318	7,576	44.2	49.0	50.5	.571	25.27	267	225	
Dec....	6,069	7,239	44.5	48.3	50.5	.555	24.71	259	220	
<i>1921</i>										
Jan....	5,847	6,919	43.7	47.4	50.7	.501	21.85	234	194	
Feb....	5,478	6,532	44.4	47.2	50.8	.500	22.19	233	197	
March..	5,534	6,703	45.5	48.7	50.8	.497	22.61	232	201	
April...	5,927	7,324	45.2	47.2	50.1	.487	22.05	228	196	
May....	6,122	7,530	46.9	49.4	50.3	.471	22.08	220	196	
June....	6,444	7,812	48.5	49.7	50.8	.468	22.69	219	202	
July*....	6,575	7,834	48.7	49.3	50.3	.456	22.19	213	197	
Aug....	6,694	8,041	48.6	49.6	50.2	.459	22.32	214	199	
Sept....	6,665	8,077	47.7	49.7	50.1	.455	21.74	213	193	
Oct....	6,856	8,259	48.9	49.2	50.0	.445	21.73	208	193	
Nov....	7,034	8,396	47.7	49.1	50.3	.439	20.91	205	186	
Dec....	7,167	8,638	49.2	49.6	50.3	.446	21.93	208	195	

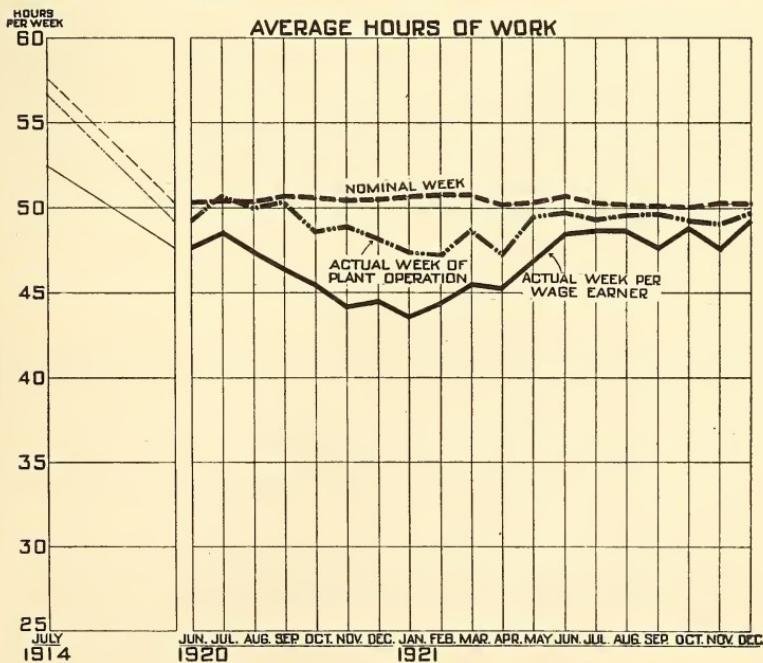
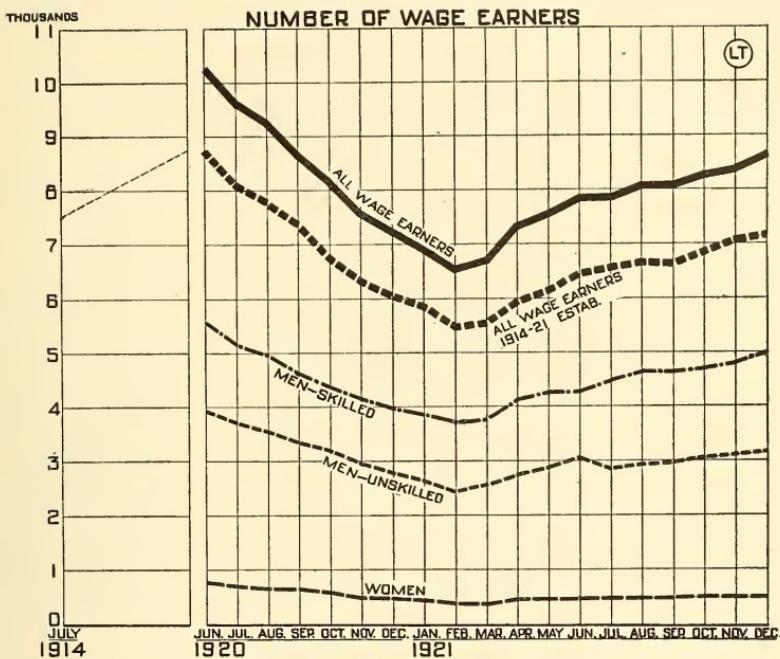
*See Introduction, p. 2.

age weekly earnings of *women* were \$6.46. By June, 1920, they had reached \$18.06, an increase of 180%. The decline from this peak up to January, 1922 amounted to 19.3%, the average earnings at the beginning of 1922 being \$14.58. By January, 1922, therefore, average weekly earnings for these three groups had increased respectively 77%, 103% and 126% over the July, 1914 levels.

Employment

Total employment in establishments covered declined 16% from June, 1920 up to the beginning of 1922. The greatest period of unemployment was reached in February, 1921. This period of stagnation was followed by gradual increases up to the beginning of 1922. The percentages of decline from June,

Leather Tanning and Finishing



(National Industrial Conference Board)

1920 up to 1922 in the various groups were as follows: Male common labor, 19.1%; male skilled labor, 10.7%; women 37.7%.

Employment in identical establishments declined 4.7% between July, 1914 and the end of the year 1921.

Hours

In July, 1914, 57.6 hours constituted the *average nominal week*. By June, 1920, the hours had shrunk to 50.3 and the general level of from 50 to 51 hours was maintained till the close of 1921.

The *average hours of plant operation* in July, 1914 were 56.7. In June, 1920, they declined to 49.3. There was a further decline in plant activity between November, 1920 and March, 1921. April, 1921 witnessed a temporary depression, but the general level of the hours of plant operation was well above 49 hours during the remaining months of 1921, showing stabilized conditions.

The *average week per wage earner* show a decline from 52.5 hours in July, 1914, to 47.7 hours in June, 1920. The general trend closely followed that of plant operation. There was a marked improvement in working hours during 1921. A comparison of hours in December, 1920 and December, 1921 shows that the average wage earner was working 4.7 hours longer in the latter period than in the preceding year.

Conclusion

The study of wages and hours in the leather tanning industry shows that:

1. Average *hourly* earnings of all wage earners on January 1, 1922 stood at \$.446, or 108% above the July, 1914 level of \$.214.
2. Average *weekly* earnings of all wage earners on January 1, 1922 stood at \$21.93, or 95% above the July, 1914 level of \$11.24.
3. From June, 1920 up to January, 1922 the decline in the total number of wage earners employed was 16%.

Classified Payroll Data—Leather Tanning and Finishing

PERIOD	MALE UNSKILLED				MALE SKILLED				FEMALE								
	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings					
1914 July..	3,246	55.3	\$199	\$11.01	100	100	3,871	50.8	\$235	\$11.92	100	100					
1920																	
June..	3,911	48.4	.516	24.95	259	227	5,582	47.9	.630	30.20	268	253					
July..	3,717	50.6	.523	26.46	263	240	5,152	48.0	.624	29.96	266	251					
Aug..	3,573	49.0	.523	25.64	263	233	4,980	46.9	.627	29.39	267	247					
Sept..	3,374	49.1	.519	25.46	261	231	4,635	45.6	.634	28.91	270	242					
Oct... Nov... Dec...	3,209 2,951 2,807	48.1 47.2 47.8	.517 .516 .501	24.87 24.37 23.92	260 259 252	226 221 217	4,372 4,126 3,966	44.0 42.6 42.7	.624 .634 .618	27.43 27.02 26.39	266 270 221	230 227 221					
1921																	
Jan... Feb... Mar... April. May. June..	2,644 2,460 2,380 2,750 2,863 3,053	47.7 47.6 47.9 48.1 48.1 49.9	.451 .446 .443 .432 .432 .431	21.49 21.24 21.22 20.78 20.78 21.48	227 224 223 217 217 217	195 193 193 189 189 195	3,855 3,700 3,757 4,126 4,240 4,281	41.4 42.9 44.6 43.9 46.4 48.0	.559 .557 .551 .545 .514 .512	23.14 23.87 23.56 23.90 23.85 24.59	238 237 234 232 219 218	194 200 206 201 200 206	420 372 366 448 427 478	38.8 37.9 38.7 40.1 43.6 43.9	.318 .311 .320 .318 .304 .306	12.33 11.79 12.38 12.75 13.26 13.43	191 213 219 218 208 210
July* Aug.. Sept.. Oct... Nov.. Dec..	2,878 2,910 2,974 3,074 3,108 3,165	50.2 49.2 47.7 49.5 49.2 50.8	.395 .394 .389 .380 .376 .384	19.83 19.41 18.53 18.83 18.54 19.54	198 198 195 191 189 193	180 176 168 171 168 177	4,498 4,642 4,614 4,693 4,792 4,983	47.5 48.4 48.1 48.6 46.7 48.1	.515 .517 .514 .503 .497 .503	24.44 25.01 24.71 24.47 23.23 24.16	219 220 219 214 211 214	468 489 489 492 496 490	49.4 47.7 44.8 47.3 47.1 49.2	.294 .297 .295 .291 .285 .296	14.53 14.16 13.20 13.74 13.43 14.58	225 203 204 213 208 226	

*See Introduction, p. 2.

4. The depression period occurred in February, 1921, followed in the spring and summer months by a gradual approach to more normal conditions.

5. Indications at the beginning of 1922 pointed to a fairly stabilized condition of employment, earnings and production.

XII

BOOT AND SHOE MANUFACTURING

The wage investigation in the boot and shoe industry covered establishments manufacturing only leather footwear. The returns covering the manufacture of rubber footwear are included in tabulations for the rubber industry. Returns were received from 101 plants, 98 of which supplied material for the last wage investigation. The largest number of wage earners employed in any one month was 55,629 in June, 1920. Thus over 22% of the wage earners reported by the 1919 Census of Manufactures for the boot and shoe industry are covered in this report. The plants covered in this investigation are representative in the number of wage earners employed and in distribution and size, located principally in centers of boot and shoe manufacturing such as Binghamton, N. Y.; Boston and environs; Chicago; Cincinnati; Manchester, N. H.; Philadelphia, and St. Louis. The geographical distribution within 11 states is as follows:

Illinois.....	8	New Jersey.....	3
Maine.....	3	New York.....	13
Massachusetts.....	31	Ohio.....	7
Michigan.....	1	Pennsylvania.....	7
Missouri.....	10	Wisconsin.....	5
New Hampshire.....	13		

Compilation of hourly wage data in the boot and shoe industry is exceedingly difficult. A record of hours worked and hourly earnings is kept by only a few establishments. The frequent combination of piece and per diem rates and task and bonus systems makes any compilation of actual hourly data practically impossible. Only a few of the schedules received in the investigation included actual hours.

In order, however, to give some conception of average hours and average hourly earnings, an estimate has been made by multiplying the plant hours by the number of people, thus securing actual man hours based on the time of plant operation. As many plants work their employees practically the full time

of plant operation, it was felt that this method of compilation would give a fairly accurate estimate of hourly earnings and hours. In addition, the few plants that reported actual hours on their schedules were included in the total, but they did not predominate in the group. The average hourly earnings and average hours given for this industry are, therefore, an approximation, but have been included in the composite or summary chapter with the hourly earnings of other basic industries.

Wages

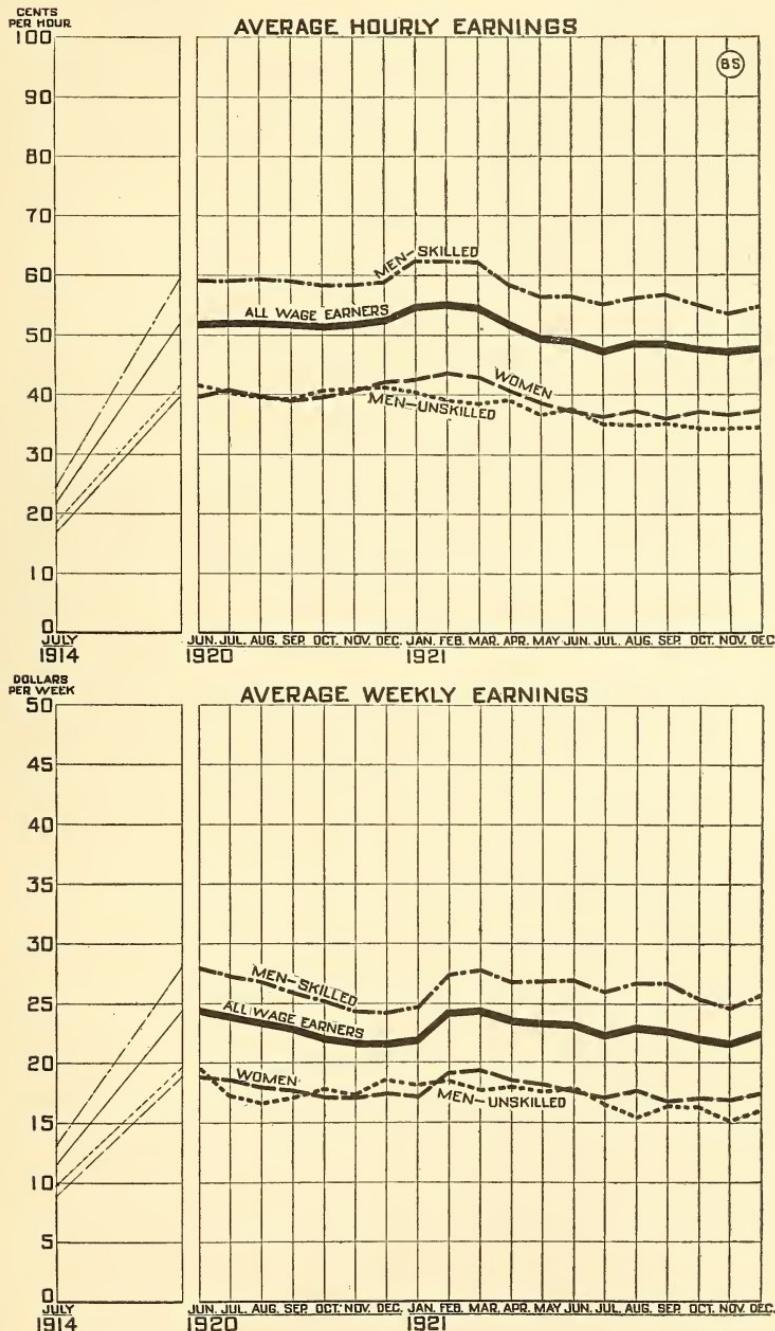
(a) Hourly earnings: In July, 1914, the average hourly earnings of *all wage earners* were \$.218. By February, 1921, they had increased 152% to \$.55. The decline from this peak up to January, 1922 was 12.9%, leaving the average hourly earnings at \$.479 or 120% above the 1914 level. During 1920 hourly earnings stood at practically a constant level. From February, 1921, there was a gradual decline.

The study shows that in July, 1914, the average hourly earnings of *male common labor* were \$.187. By June, 1920, they had increased 121% to \$.414. From this period they declined 16.7% to \$.345 up to January, 1922. In July, 1914, the average hourly earnings of *male skilled labor* were \$.246. They increased 154% to \$.626 by February, 1921, and declined 12.3% to \$.549 from the latter period up to January, 1922. In July, 1914, the average hourly earnings of *women* were \$.171. By February, 1921, they had increased 154% to \$.434. The decline from this period up to January, 1922 amounted to 14.3%, making the average hourly earnings at that time \$.372. By January, 1922, therefore, the percentages of increase for these three groups respectively were 84%, 123% and 118% over the 1914 levels.

(b) Weekly earnings: In July, 1914, the average weekly earnings of *all wage earners* were \$11.60. By June, 1920, they had risen 111% to \$24.43. The decline from this period up to January 1, 1922 was 8.2%, making the average weekly earnings \$22.43 or 93% above the July, 1914 level.

In July, 1914, the average weekly earnings of *male common labor* were \$9.86. By June, 1920, they had increased 99% to \$19.61, falling again 18.8% to \$15.93 by January, 1922. In

Boot and Shoe Manufacturing



(National Industrial Conference Board)

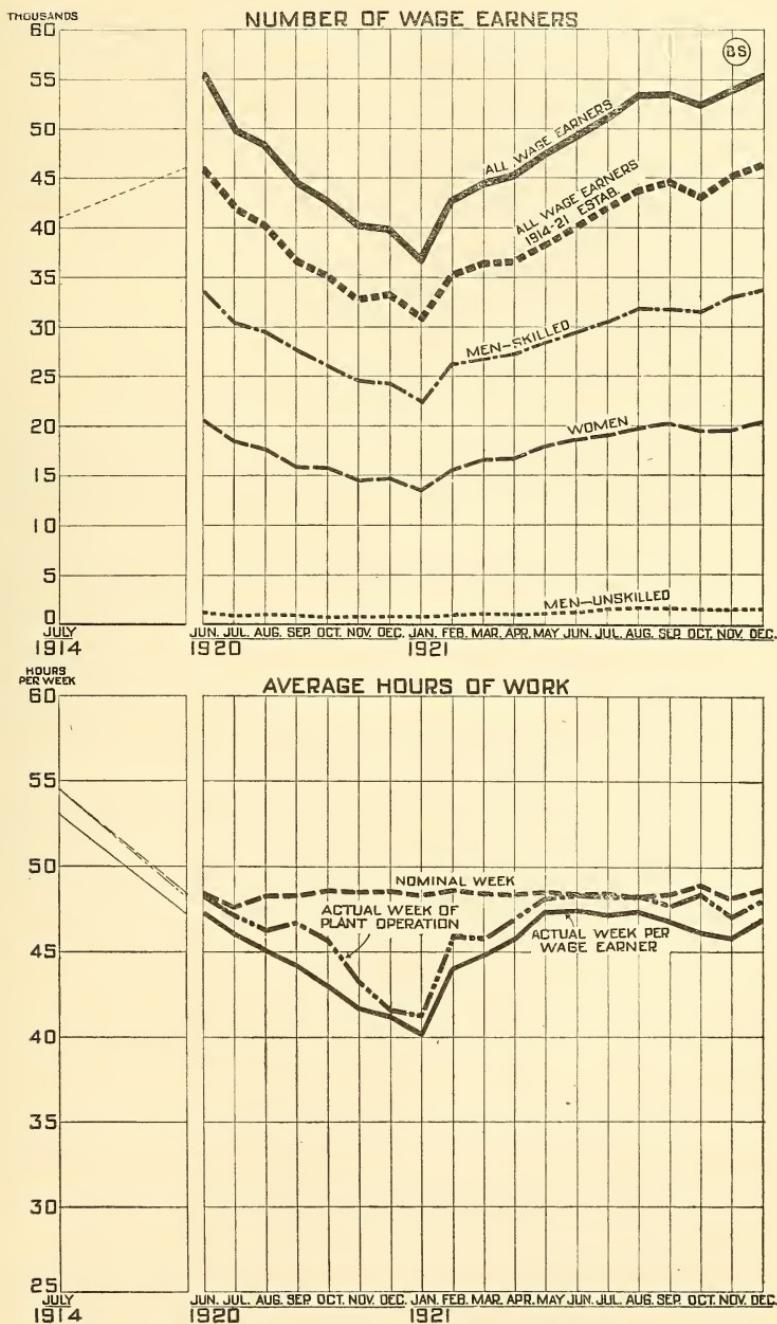
Composite Payroll Data—Boot and Shoe Manufacturing

Period	Number Wage Earners Employed		Average Hours			Wages (All Wage Earners)			
	One Week In	1914-22 Establ. (77 plants)	1920-22 Establ. (101 plants)	Av. Week Per Wage Earner	Av. Hours Plant Operation	Nominal Week	Av. Hrly. Earnings	Av. Wkly. Earnings	Index Nos. Earnings
<i>1914</i>									
July....	41,169	.....	53.1	54.5	54.5	\$.218	\$11.60	100	100
<i>1920</i>									
June....	46,083	55,629	47.3	48.2	48.5	.517	24.43	237	211
July....	42,015	49,865	46.1	47.1	47.7	.519	23.90	238	206
Aug....	40,055	48,431	45.1	46.2	48.3	.519	23.37	238	201
Sept....	36,658	44,619	44.3	46.6	48.4	.514	22.78	236	196
Oct....	35,032	42,708	43.0	45.5	48.6	.511	21.95	234	189
Nov....	32,841	40,177	41.7	43.3	48.6	.516	21.52	237	186
Dec....	33,251	39,867	41.2	41.5	48.6	.523	21.54	240	186
<i>1921</i>									
Jan....	30,892	36,791	40.1	41.3	48.4	.545	21.85	250	188
Feb....	35,336	42,760	44.0	45.8	48.7	.550	24.20	252	209
Mar....	36,519	44,456	44.8	45.7	48.5	.544	24.38	250	210
April...	36,699	45,118	45.7	46.9	48.5	.516	23.56	237	203
May....	38,428	47,454	47.3	48.1	48.6	.493	23.35	226	201
June....	40,092	49,330	47.4	48.3	48.5	.490	23.23	225	200
July*...	42,252	51,238	47.2	48.2	48.5	.474	22.36	217	193
Aug....	43,986	53,482	47.4	48.2	48.3	.485	22.98	222	198
Sept....	44,479	53,639	46.9	47.7	48.5	.484	22.70	222	196
Oct....	43,387	52,646	46.2	48.3	49.0	.478	22.06	219	190
Nov....	45,130	54,048	45.9	47.1	48.3	.471	21.60	216	186
Dec....	46,484	55,397	46.9	48.0	48.8	.479	22.43	220	193

*See Introduction, p. 2.

July, 1914, the average weekly earnings of *male skilled labor* were \$13.18. By June, 1920, they had increased 113% to \$28.01. The decline from this point up to January, 1922 was 8.2%, making the average weekly earnings \$25.72 at the latter period. In July, 1914, the average weekly earnings of *women* were \$8.97. By March, 1921, they had increased 115% to \$19.32. The decline from this period up to January, 1922, amounted to 9.6%, leaving the average earnings \$17.47 at the latter period. By January, 1922, therefore, the average weekly earnings of these three groups had increased respectively 62%, 95% and 95% over the July, 1914 levels.

Boot and Shoe Manufacturing



(National Industrial Conference Board)

Employment

Total employment remained practically stationary. During 1920 there was a rapid decline in total employment, but during 1921 there was a gradual return of employees, so that in December, 1921, total employment stood at approximately the same figure as in June, 1920. A large increase was noted in male common labor, with slight declines occurring in skilled labor and women.

Employment increased 9.3% in identical establishments between July, 1914 and the end of the year 1921.

Hours

The average hours of the *nominal week* in July, 1914 were 54.5. Except for slight variations in a few months, a practically stationary level of 48.5 hours was maintained from June, 1920 up to January, 1922.

The *average actual hours of plant operation* showed a reduction from 54.5 to 48.2 hours in June, 1920. During 1920 there was a sharp reduction in plant activity. The year 1921 was marked by considerable fluctuations in plant operation, but on the whole, it would seem that the industry has recovered from the general effects of the industrial depression.

The *average week per wage earner* dropped from 53.1 to 47.3 hours in July, 1920. The trend closely followed that of plant activity, there being a decline during 1920, and increases during 1921, with wide fluctuations characterizing the whole trend.

Conclusion

The study of wages and hours in the boot and shoe industry shows that:

1. The average *hourly* earnings of all wage earners on January 1, 1922 were \$.479, or 120% above the 1914 level of \$.218.
2. Average *weekly* earnings of all wage earners on January 1, 1922 were \$22.43 or 93% above the 1914 level of \$11.60.
3. The declines from the peak, of 12.9% in hourly earnings, and 8.2% in weekly earnings, were far less than the general average found in many other basic industries.

Classified Payroll Data—Boot and Shoe Manufacturing

PERIOD	MALE UNSKILLED				MALE SKILLED				WOMEN			
	No. Week In	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings
1914	July..	880	\$2.7	\$1.87	\$9.86	100	100	25,578	53.5	\$.246	\$13.18	100
1920	June..	1,214	.474	.414	19.61	221	199	33,798	47.3	.592	28.01	241
	July..	917	.431	.401	17.29	214	175	30,458	46.2	.592	27.35	241
	Aug..	1,043	.417	.397	16.56	212	168	29,634	45.2	.595	26.88	242
	Sept..	951	.434	.393	17.06	210	173	27,688	44.0	.590	25.95	240
	Oct..	799	.437	.406	17.71	217	180	26,056	42.8	.585	25.02	238
	Nov..	790	.423	.410	17.33	219	176	24,828	41.5	.584	24.28	237
	Dec..	809	.449	.413	18.57	221	188	24,276	40.9	.590	24.13	240
1921	Jan..	816	44.9	.402	18.05	215	183	22,470	39.8	.623	24.81	253
	Feb..	998	47.2	.391	18.46	209	187	26,141	43.9	.626	27.45	254
	Mar..	1,073	45.5	.388	17.67	207	179	26,836	44.7	.621	27.76	252
	April..	1,045	45.8	.392	17.95	210	182	27,253	45.8	.586	26.85	238
	May..	1,079	47.6	.369	17.58	197	178	28,375	47.4	.566	26.84	230
	June..	1,106	47.7	.376	17.92	201	182	29,490	47.5	.567	26.95	230
	July*	1,572	46.9	.353	16.57	189	168	30,440	47.2	.551	26.03	224
	Aug..	1,662	43.9	.350	15.36	187	156	31,878	47.5	.563	26.73	229
	Sept..	1,594	46.5	.352	16.36	188	166	31,808	47.0	.569	26.73	231
	Oct..	1,508	47.3	.345	16.30	184	165	31,616	46.2	.551	25.44	224
	Nov..	1,420	44.0	.343	15.06	183	153	33,120	45.9	.537	24.65	218
	Dec..	1,477	46.1	.345	15.93	184	162	33,607	46.9	.549	25.72	223

4. Employment in December, 1921, stood at the same level as in June, 1920, there having been a decided decrease during 1920 and a marked increase during 1921. While hourly earnings declined, weekly earnings and working hours were well sustained.

5. The boot and shoe industry during 1921 was marked by considerable fluctuations, but, on the whole, showed a gradual tendency to improvement as compared with the conditions in 1920.

XIII

MEAT PACKING

The wage investigation in the meat packing industry included those establishments engaged in the slaughtering, dressing and packing of meats. Returns were received from 50 plants, 47 of which supplied material for the last wage investigation. The largest number of wage earners employed in any one month in the 50 establishments was 36,139 in June, 1920. Thus, over 21% of the wage earners reported by the 1919 Census of Manufactures for the packing industry are covered in this report. The data are representative of the industry, covering 10 of the largest plants in the Chicago stock yards, and a good selection of independent plants scattered through the country. The geographical distribution of plants within 22 states is as follows:

California.....	1	Missouri.....	3
Colorado.....	1	New Jersey.....	1
Illinois.....	13	New York.....	1
Indiana.....	2	Ohio.....	4
Iowa.....	3	Oklahoma.....	1
Kansas.....	2	Pennsylvania.....	5
Kentucky.....	1	Rhode Island.....	1
Maine.....	1	Tennessee.....	1
Massachusetts.....	1	Texas.....	1
Michigan.....	1	West Virginia.....	2
Minnesota.....	2	Wisconsin.....	2

Wages

(a) *Hourly earnings:* In July, 1914, the average hourly earnings of *all wage earners* were \$.216. By July, 1920, they had risen 171% to \$.586. They declined 23.9% from the latter period up to January, 1922, at which time the average hourly earnings were \$.446, an increase of 106% over July, 1914. A general high level of hourly earnings was maintained during the last half of 1920. In March, 1921, a marked decline was shown, principally as a result of the 12½% to 15% wage reduction made in the Chicago meat packing industry. The minimum

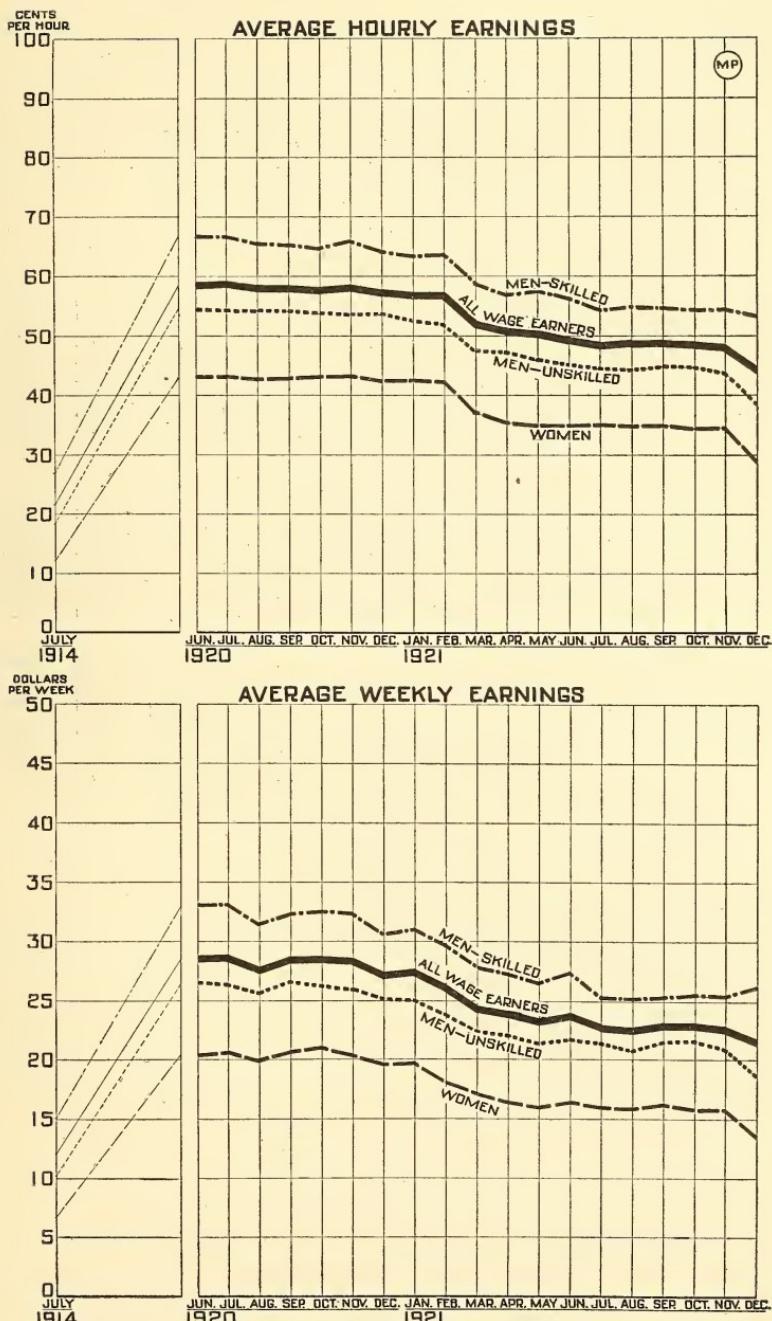
wage for this locality dropped from \$.53 to \$.45 an hour. As ten of the largest companies included in the present investigation are Chicago meat packing houses, the entire wage trend was affected by this local situation. The drop in weekly earnings is also due to the wage cut made at this time. The general trend of hourly earnings during the last half of 1921 was gradually downward, with a reduction of $3\frac{1}{2}$ cents occurring in December.

In July, 1914, the average hourly earnings of *male common labor* were \$.183. In June, 1920, they had increased 197% over July, 1914, to \$.544. From June, 1920 up to January, 1922, they declined 31.7% to \$.387. In July, 1914, the average hourly earnings of *male skilled labor* were \$.269. By June, 1920, they had increased 148% to \$.667. They declined 20.1% from the latter period up to the beginning of 1922, bringing the average earnings down to \$.533. In July, 1914, the average hourly earnings of *women* were \$.123. In October and November, 1920, they had reached \$.432, an increase of 251%. The decline from these peaks up to January, 1922, amounted to 33.1%, the average earnings at the beginning of 1922 being \$.289. By January, 1922, therefore, the average hourly earnings for these three groups had increased respectively 111%, 98% and 135% over the July, 1914 levels.

(b) *Weekly earnings:* Average weekly earnings of *all wage earners* in July, 1914, were \$12.07. By July, 1920, they had risen 137% to \$28.66. The decline was 24.6% from the latter period up to January, 1922, at which time the average weekly earnings were \$21.62, a net increase of 79% over July, 1914. The trend of weekly earnings throughout the last half of 1920 and the entire year of 1921 was gradually downward, and was affected by the decline in hourly earnings rather than by a shortening of working hours.

In July, 1914, the average weekly earnings of *male common labor* were \$10.25. In September, 1920, they had risen 160% over July, 1914, to \$26.63. From September, 1920 up to January, 1922, they declined 29.9%, to \$18.66. In July, 1914, the average weekly earnings of *male skilled labor* were \$15.12. By July, 1920, they had increased 119% to \$33.04, declining to \$26.19 or 20.3% from the latter period up to the beginning of

Meat Packing



(National Industrial Conference Board)

Composite Payroll Data—Meat Packing

Period	Number Wage Earners Employed		Average Hours			Wages (All Wage Earners)			
	1914-22 Establ. (29 plants)	1920-22 Establ. (50 plants)	Av. Week Per Wage Earner	Av. Hours Plant Oper- ation	Nomi- nal Week	Av. Hrly. Earn- ings	Av. Wkly. Earn- ings	Index Nos. Earnings	
<i>1914</i>									
July....	21,349	.....	55.9	58.8	59.3	.216	\$12.07	100	100
<i>1920</i>									
June....	30,464	36,139	48.9	49.6	49.1	.583	28.52	270	236
July....	30,662	36,122	48.9	49.5	49.1	.586	28.66	271	237
Aug....	30,559	35,898	47.6	48.9	49.1	.580	27.62	269	229
Sept....	30,025	35,269	49.2	49.3	49.1	.579	28.49	268	236
Oct.....	30,046	35,277	49.4	50.0	49.2	.577	28.47	267	236
Nov....	29,013	34,327	48.6	49.5	49.4	.582	28.32	269	235
Dec....	27,982	33,241	47.3	48.5	49.1	.574	27.13	266	225
<i>1921</i>									
Jan.....	25,834	30,972	48.2	49.2	49.3	.568	27.34	263	227
Feb....	25,735	30,713	45.8	48.0	49.3	.568	26.06	263	216
March..	24,011	28,693	47.2	48.5	49.3	.518	24.44	240	202
April....	22,112	26,436	47.2	48.7	49.4	.507	23.93	235	198
May....	23,441	27,993	46.1	48.7	49.4	.503	23.22	233	192
June....	23,842	28,458	48.2	49.4	49.6	.493	23.74	228	197
July*....	25,247	29,700	47.0	47.0	47.9	.484	22.73	224	188
Aug....	25,336	29,703	46.3	46.6	48.1	.486	22.48	225	186
Sept....	26,034	30,483	46.8	47.5	48.0	.487	22.81	225	189
Oct.....	26,351	30,952	47.2	47.6	47.9	.485	22.89	225	190
Nov....	24,897	30,410	47.0	47.6	48.0	4.81	22.62	223	187
Dec....	22,310	26,760	48.5	48.2	47.9	.446	21.62	206	179

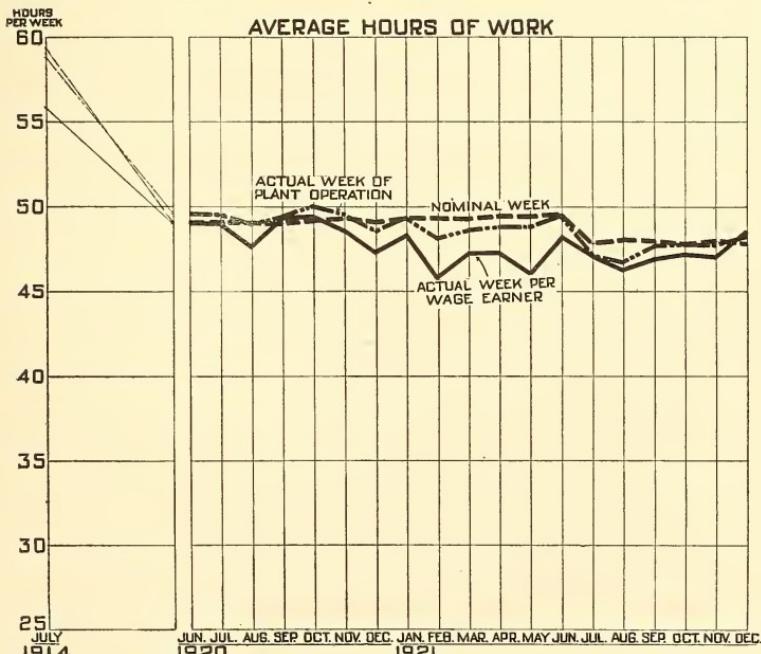
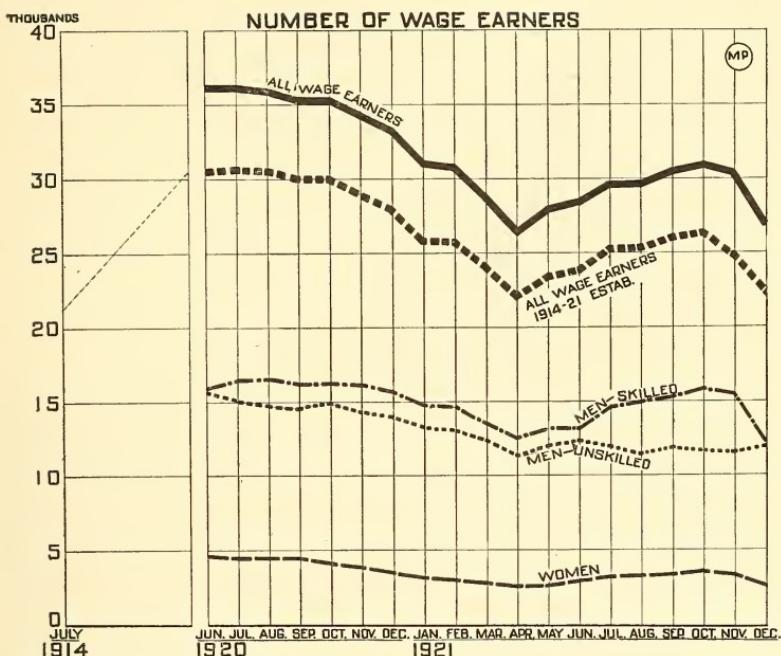
*See Introduction, p. 2.

1922. In July, 1914, the average weekly earnings of women were \$6.68. By October, 1920, they had increased 212% to \$20.89. The decline from this peak up to January, 1922 amounted to 35.3%, the average earnings at the beginning of 1922 being \$13.52. By January, 1922, therefore, the average weekly earnings for these three groups had increased respectively 82%, 73% and 102% over July, 1914 levels.

Employment

The total decline in employment from June, 1920 up to January, 1922 was 26%. The trend shows a steady decline from the peak through April, 1921. The spring and summer months of 1921 showed an increase in the number of wage

Meat Packing



(National Industrial Conference Board)

earners employed. In December, 1921, however, a severe curtailment in working forces occurred, which was most marked in the male skilled labor group. The largest decline in employment from the peak, however, occurred among women, there being a decrease of 44.4% in the number employed.

Employment in identical establishments between July, 1914, and the end of the year 1921, increased 4.5%. The decline in these same establishments between June, 1920, and January, 1922, was 26.8%.

Hours

In July, 1914, 59.3 hours constituted the *average nominal week*. Following the general reduction in length of working hours during the war period, the nominal week fell to 49.1 hours in June, 1920, and a general level of slightly more than 49 hours was maintained through June, 1921. In July, 1921, there was a further decline in the hours of the nominal week to approximately 48 hours, which was maintained till the close of the year 1921.

Average hours of plant operation in July, 1914, were 58.8 hours. By June, 1920, they had been reduced to 49.6 hours. There were considerable fluctuations in the hours of plant operation, but on the whole they held close to the average hours of the nominal week. The meat packing industry was little affected, therefore, by the economic depression existing in basic industries. The demand for meat and meat products was fairly steady, even though industry in general was passing through a period of retrenchment.

The *average actual week per wage earner* showed a decline from 55.9 hours in July, 1914, to 48.9 hours in June, 1920. The trend during 1920 and 1921 closely followed that of plant activity. A marked increase in actual working hours occurred in December, 1921. On the whole, hours in the meat packing industry showed only a slight decline in comparison with the large reduction of hours in metal working trades and textiles during the depression period.

Classified Payroll Data—Meat Packing

PERIOD	MALE UNSKILLED				MALE SKILLED				WOMEN			
	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings
1914 July..	8,718	56.0	\$1.183	\$10.25	100	9,957	56.2	\$15.12	100	2,674	54.5	\$6.68
1920 June..	15,691	48.6	.544	26.45	297	258	15,847	49.4	.667	32.95	248	4,601
July..	15,079	48.4	.543	26.31	297	257	16,472	49.7	.665	33.04	247	4,571
Aug..	14,813	47.2	.543	25.65	250	250	16,369	48.1	.654	31.46	243	4,516
Sept..	14,615	49.1	.542	26.63	296	260	16,208	49.5	.653	32.33	243	4,446
Oct..	14,940	48.7	.538	26.24	294	256	16,256	50.2	.646	32.43	240	4,081
Nov..	14,360	48.6	.535	26.02	292	254	16,128	49.1	.658	32.29	245	3,839
Dec..	14,031	46.9	.537	25.19	293	246	15,712	47.8	.639	30.54	238	202
1921 Jan...	13,207	47.7	.525	25.02	287	244	14,741	48.9	.633	30.97	235	205
Feb...	13,105	45.7	.520	23.80	284	232	14,665	46.6	.637	29.67	237	196
Mar..	12,346	47.0	.476	22.38	260	218	13,567	47.6	.585	27.84	217	184
April.	11,358	46.7	.472	22.05	258	215	12,530	47.9	.568	27.18	211	180
May..	12,055	46.4	.460	21.32	251	208	13,158	46.0	.576	26.49	214	175
June..	12,394	47.9	.451	21.58	246	211	13,164	48.8	.561	27.40	209	181
July*	11,922	47.8	.445	21.30	243	208	14,609	46.7	.543	25.36	202	168
Aug..	11,404	46.9	.443	20.78	242	203	15,003	46.0	.549	25.23	204	167
Sept..	11,881	47.8	.449	21.46	245	209	15,300	46.2	.547	25.28	203	167
Oct..	11,637	48.0	.447	21.49	244	210	15,829	46.9	.543	25.49	202	169
Nov..	11,578	47.6	.438	20.85	239	203	15,468	46.9	.543	25.44	202	168
Dec..	11,919	48.2	.387	18.66	211	182	12,284	49.1	.533	26.19	198	173

Conclusion

A study of wages and hours in the meat packing industry shows that:

1. Average *hourly* earnings of all wage earners on January 1, 1922 stood at \$.446, or 106% above the July, 1914 level of \$.216.
2. Average *weekly* earnings of all wage earners on January 1, 1922 stood at \$21.62, or 79% above the July, 1914 level of \$12.07.
3. Employment declined 26% from the peak up to January, 1922.
4. The trend of hours remained fairly steady during 1920 and 1921.
5. The general wage reduction is fairly comparable with that in many other basic industries.

XIV

CHEMICAL MANUFACTURING

A. Chemicals

Wage data in this industry cover establishments engaged in the manufacture of acids, salts, dyestuffs, and other chemical products. An analysis of wage conditions in fertilizer manufacturing has been made in a separate section. Returns were received from 74 establishments, of which all but one furnished information for the last wage investigation. The largest number of wage earners employed in any one month was 17,232 in July, 1920. Thus, approximately 26% of the wage earners reported by the 1919 Census of Manufactures for the chemical industry are covered in this report. The geographical distribution within 22 states and the District of Columbia is as follows:

Alabama.....	1	Massachusetts.....	5
California.....	2	Michigan.....	2
Colorado.....	1	Missouri.....	2
Connecticut.....	1	New Jersey.....	17
Delaware.....	1	New York.....	12
District of Columbia.....	1	North Carolina.....	1
Georgia.....	1	Ohio.....	5
Kansas.....	1	Pennsylvania.....	8
Illinois.....	1	Rhode Island.....	1
Indiana.....	2	West Virginia.....	3
Kentucky.....	2	Wisconsin.....	2
Maryland.....	2		

Wages

(a) Hourly earnings: In July, 1914, average hourly earnings of *all wage earners* were \$.226. By August, 1920, they had increased 161% to \$.589. The decline from the latter period up to January, 1922 amounted to 22.9%, leaving the average hourly earnings at \$.454, an increase of 101% over July, 1914. The decline was gradual throughout the entire period, the most severe reductions in hourly earnings occurring in January, February and March, 1921.

The average hourly earnings of *male common labor* in July, 1914 were \$.214. By August, 1920 they had increased 161% to \$.559. The decline from the latter period up to January, 1922 was 26.1% to \$.413. In July, 1914, the average hourly earnings of *male skilled labor* were \$.266. By August, 1920, they had increased 149% to \$.662, and declined 19.9% to \$.530 from the latter period up to the beginning of 1922. In July, 1914, the average hourly earnings of *women* were \$.133. By June, 1920, they had increased 156% to \$.340. The decline from this peak up to January, 1922 amounted to 13.5%, the average earnings at the beginning of 1922 being \$.294. By January, 1922, therefore, the average hourly earnings of these three groups had increased respectively 93%, 99% and 121% over the July, 1914 levels.

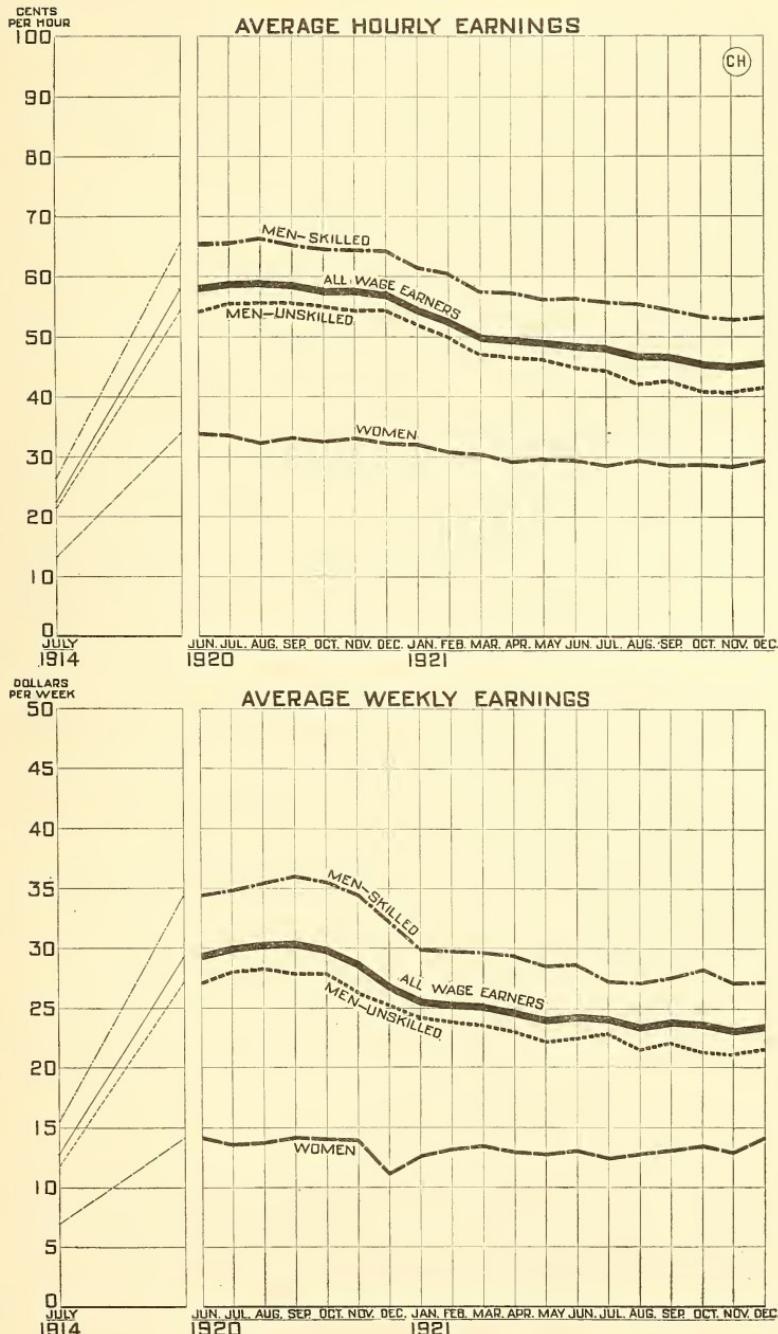
(b) *Weekly earnings:* The average weekly earnings of *all wage earners* in July, 1914 were \$12.77. By September, 1920, they had increased 137% to \$30.25. The decline from the latter period up to January, 1922 was 22.3%, leaving the average weekly earnings at \$23.49, a net increase of 84% over July, 1914. The trend showed a gradual decline from the peak during 1921. Although hourly earnings decreased, the lengthening of working hours maintained average weekly earnings.

For specific groups of employees, the study shows that in July, 1914, the average weekly earnings of *male common labor* were \$11.89. By August, 1920, they had increased 138% to \$28.34. From the latter period up to January, 1922 they declined 23.6% to \$21.66. In July, 1914, the average weekly earnings of *male skilled labor* were \$15.59. By September, 1920, they had increased 131% to \$36.07, and from the latter period up to the beginning of 1922 declined 24.5% to \$27.22. In July, 1914, the average weekly earnings of *women* were \$6.99. By September, 1920, they had increased 103% to \$14.19. The decline from this peak up to 1922 amounted to 0.8%, the average earnings being \$14.07. By January, 1922, therefore, the weekly earnings for these three groups had increased respectively 82%, 75% and 101% over the July, 1914 levels.

Employment

Total employment in the establishments declined 38.1% from June, 1920 up to the beginning of 1922. The percentages of

Chemical Manufacturing



(National Industrial Conference Board)

Composite Payroll Data—Chemical Manufacturing

Period One Week In	Number Wage Earners Employed		Average Hours			Wages (All Wage Earners)			
	1914-22 Establ. (55 plants)	1920-22 Establ. (74 plants)	Av. Week Per Wage Earner	Av. Hours Plant Operation	Nominal Week	Av. Hrly. Earnings	Av. Wkly. Earnings	Index Nos. Hrly.	Index Nos. Wkly.
<i>1914</i>									
July....	6,344	.....	56.4	94.3	56.6	\$.226	\$12.77	100	100
<i>1920</i>									
June....	12,812	17,068	50.4	97.8	51.6	.580	29.24	257	229
July....	12,974	17,232	50.9	96.9	51.6	.588	29.90	260	234
Aug....	12,634	16,634	51.2	100.7	51.6	.589	30.16	261	236
Sept....	12,632	16,250	51.7	99.2	51.5	.585	30.25	259	237
Oct.....	13,140	16,377	51.9	99.6	51.8	.576	29.87	255	234
Nov....	12,096	14,962	49.8	97.5	52.4	.576	28.69	255	225
Dec....	9,443	11,862	46.9	91.0	52.4	.571	26.80	253	210
<i>1921</i>									
Jan.....	7,812	9,837	46.8	89.8	52.3	.544	25.50	241	200
Feb....	7,859	9,814	47.9	85.8	52.1	.526	25.18	233	197
March..	7,732	9,614	50.1	86.4	52.7	.500	25.01	221	196
April...	7,263	8,984	49.6	87.9	52.1	.496	24.64	219	193
May....	7,377	8,863	48.8	87.0	52.5	.490	23.90	217	187
June...	7,207	8,774	49.9	90.9	52.5	.485	24.20	215	190
July*....	7,204	8,911	50.0	92.1	51.2	.481	24.08	213	189
Aug....	7,666	9,281	49.8	88.0	51.7	.467	23.28	207	182
Sept....	7,714	9,237	51.0	86.9	51.1	.466	23.73	206	186
Oct.....	8,580	10,435	52.1	89.4	51.0	.453	23.63	200	185
Nov....	8,834	10,773	51.2	89.9	51.3	.450	23.07	199	181
Dec....	8,647	10,568	51.8	93.2	51.7	.454	23.49	201	184

*See Introduction, p. 2.

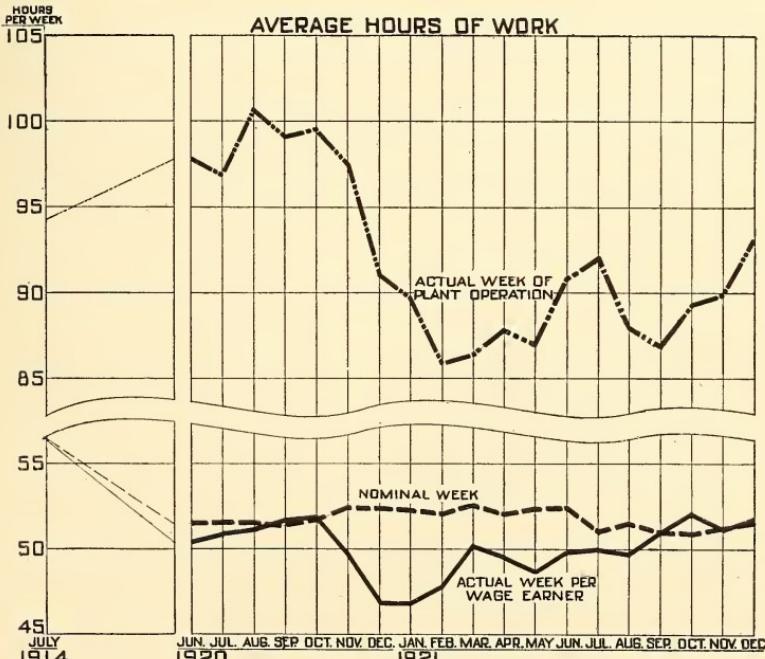
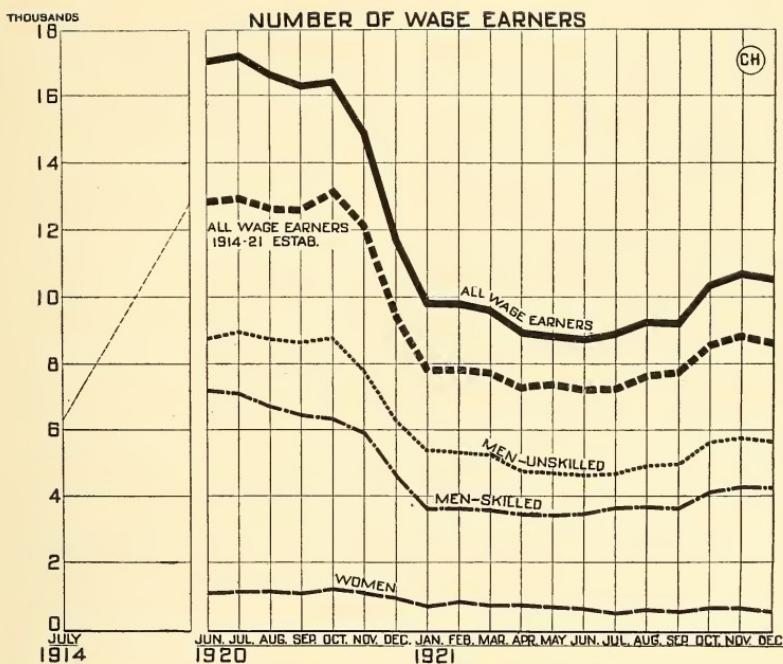
decline in the three groups during this period were as follows: male common labor, 35.3%; male skilled labor, 40.3%; women, 46%.

Employment in identical establishments between July, 1914, and the end of the year increased 36.3%.

Hours

In July, 1914, 56.6 hours constituted the *average nominal week*. Following a decline of hours during the war period, by June, 1920 the average nominal week dropped to 51.6 hours. This general level was maintained through October, 1920, but in November there was an increase to 52.4 hours, and the general

Chemical Manufacturing



(National Industrial Conference Board)

Classified Payroll Data—Chemical Manufacturing

PERIOD	MALE UNSKILLED				MALE SKILLED				WOMEN			
	No. Wage Earners One Week In	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings Hourly	No. Wage Earners One Week In	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings Hourly	No. Wage Earners One Week In	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings Hourly
1914	3,839	55.6	\$ 214	100	100	2,975	58.6	\$ 266	100	100	430	52.7
1920												
June...	8,787	50.0	.541	27.04	253	227	7,193	52.2	.655	34.21	246	219
July...	8,971	50.5	.555	28.01	259	236	7,114	53.1	.657	34.90	247	224
Aug...	8,753	50.7	.559	28.34	261	238	6,709	53.5	.662	35.40	249	227
Sept...	8,667	50.2	.557	27.96	260	235	6,471	55.4	.652	36.07	245	231
Oct...	8,789	50.9	.550	27.98	257	235	6,338	54.9	.649	35.59	244	228
Nov...	7,857	48.2	.546	26.33	255	221	5,974	53.4	.648	34.58	244	222
Dec...	6,250	46.5	.543	25.26	254	212	4,632	50.2	.642	32.21	241	207
1921												
Jan...	5,408	46.7	.520	24.30	243	204	3,670	48.6	.616	29.94	232	192
Feb...	5,358	47.6	.500	23.82	234	200	3,639	49.4	.604	29.85	227	191
Mar...	5,246	50.0	.471	23.50	220	198	3,598	51.4	.577	29.65	217	190
April...	4,799	49.2	.467	23.00	218	193	3,436	51.3	.575	29.46	216	189
May...	4,707	48.1	.462	22.21	216	187	3,429	50.8	.562	28.58	211	183
June...	4,645	49.9	.450	22.44	210	189	3,484	50.9	.563	28.62	212	184
July*	4,690	51.7	.442	22.85	207	192	3,694	48.8	.559	27.31	210	175
Aug...	4,928	51.5	.421	21.66	197	182	3,729	48.7	.558	27.18	210	174
Sept...	4,974	51.9	.427	22.14	200	186	3,671	50.6	.545	27.60	205	177
Oct...	5,693	52.4	.410	21.45	192	180	4,110	52.7	.535	28.21	181	181
Nov...	5,815	51.8	.408	21.15	191	178	4,301	51.4	.529	27.22	199	175
Dec...	5,689	52.5	.413	21.66	193	182	4,291	51.4	.530	27.22	199	175

average of over 52 hours was maintained through June, 1921. The last six months of 1921 showed a decline below 52 hours.

The *average hours of plant operation* increased in this two-shift industry from 94.3 in July, 1914, to 97.8 in June, 1920. Plant hours were well sustained through November, 1920. The year 1921 was marked by a much lower level. The tendency, during the last three months of 1921, was toward a resumption of more normal activity.

The *average actual week per wage earner* showed a decline from 56.4 in July, 1914, to 50.4 in June, 1920. Working hours were somewhat irregular during 1920-21. The last six months of 1921 showed a return to more normal and sustained working hours.

Conclusion

The study of wages and hours in chemical manufacturing shows that:

1. Average *hourly* earnings of all wage earners on January 1, 1922, stood at \$.454 or 101% above the July, 1914 level of \$.226.
2. Average *weekly* earnings of all wage earners on January 1, 1922 stood at \$23.49 or 84% above the July, 1914 level of \$12.77.
3. The wage reductions, of 22.9% in hourly earnings and 22.3% in weekly earnings, from the peaks were in general accord with reductions in many basic industries.
4. Employment decreased 38.1% from June, 1920 to the beginning of January, 1922, showing the effect of the industrial depression upon this industry.
5. The gradual increase of working hours during the latter half of 1921 helped maintain weekly earnings at a more or less stationary level.

B. Fertilizer Manufacturing

Conditions in establishments manufacturing agricultural chemicals and fertilizers are so different from those in other branches of chemical manufacturing that separate classification has been made of this industry. The fertilizer industry is generally confined to plants in southern states employing a large proportion of common labor. Seasonal fluctuations are characteristic of this industry, and naturally all wage data are affected by such changes. A total of 51 plants was covered out of the 66 establishments which furnished data for the last wage investigation. The largest number of wage earners employed in any one month in the 51 establishments was 6,152 in August, 1920. The number of female wage earners was not tabulated, as the total number in this group is relatively small. Thus, approximately 27% of the wage earners reported by the 1919 Census of Manufactures for the fertilizer industry are covered in this report. The geographical distribution within 21 states is as follows:

Alabama.....	1	New Hampshire.....	1
Arkansas.....	1	New Jersey.....	3
California.....	3	New York.....	1
Connecticut.....	1	North Carolina.....	5
Florida.....	3	Ohio.....	6
Georgia.....	11	Pennsylvania.....	1
Illinois.....	1	South Carolina.....	5
Indiana.....	1	Tennessee.....	1
Louisiana.....	1	Texas.....	1
Maryland.....	2	Virginia.....	1
Michigan.....	1		

Wages

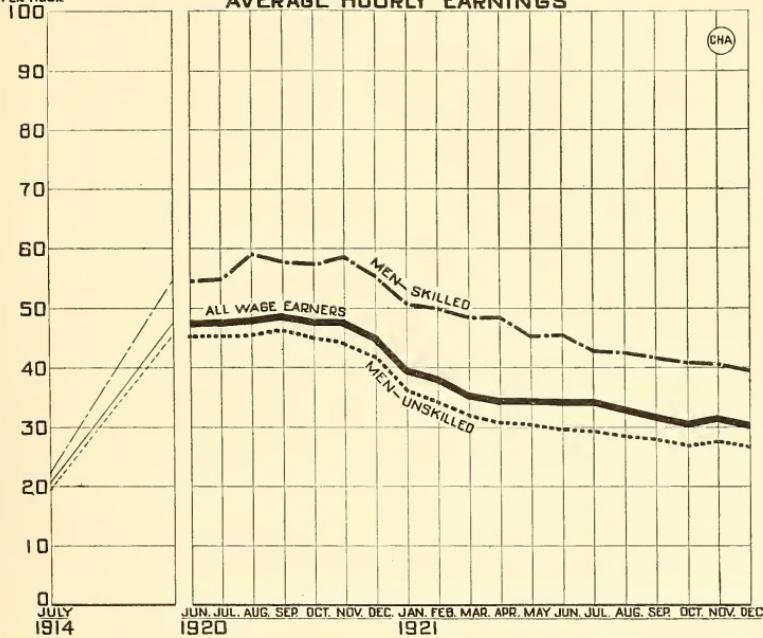
(a) Hourly earnings: In July, 1914, the average hourly earnings of *all wage earners* were \$.206. By September, 1920 they had risen 136% to \$.486. The decline from the latter period up to January, 1922 was 38.1%, at which time the average hourly earnings were \$.301, an increase of 46% over July, 1914. The trend of hourly earnings showed a well-sustained level through November, 1920. Beginning in December, wage adjustments began to take effect, with more severe reductions occurring throughout 1921.

In July, 1914 the average hourly earnings of *male common labor* were \$.196. By September, 1920 they had increased 137% to \$.464. The decline from the latter period up to

Fertilizer Manufacturing

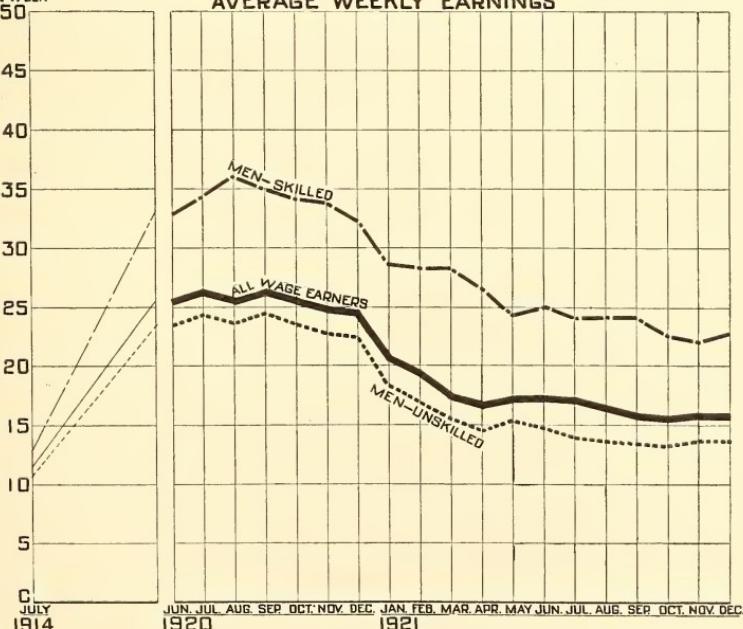
CENTS
PER HOUR

AVERAGE HOURLY EARNINGS



DOLLARS
PER WEEK

AVERAGE WEEKLY EARNINGS



(National Industrial Conference Board)

Composite Payroll Data—Fertilizer Manufacturing

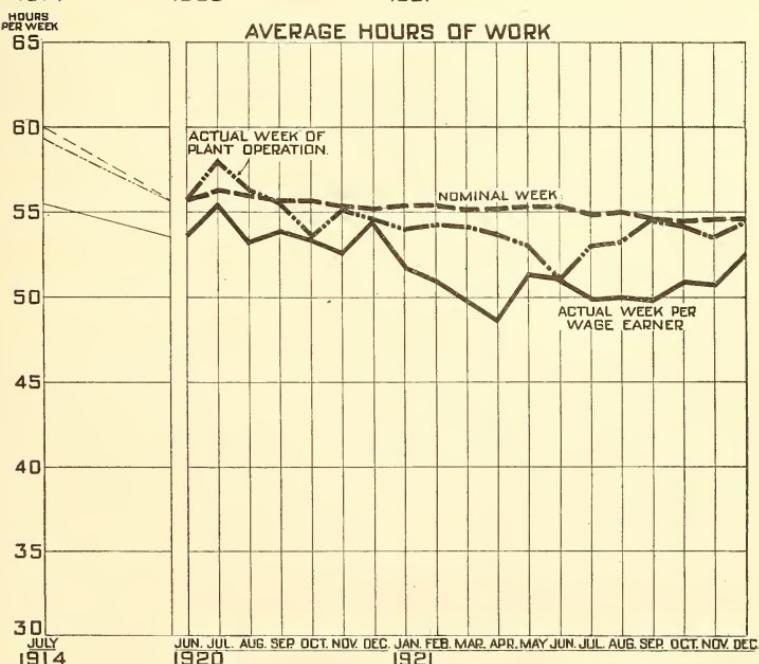
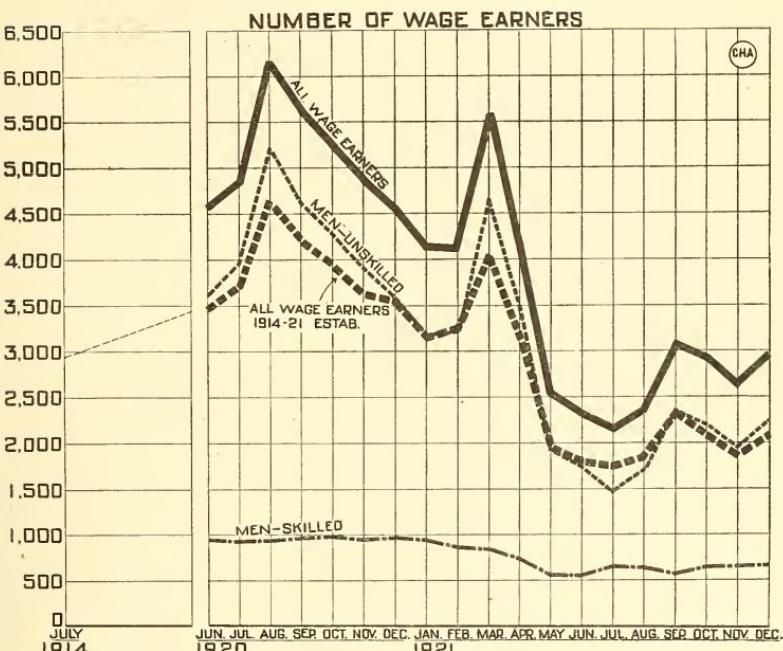
Period One Week In	Number Wage Earners Employed		Average Hours			Wages (All Wage Earners)			
	1914-22 Establ. (35 plants)	1920-22 Establ. (61 plants)	Av. Week Per Wage Farmer	Av. Hours Plant Operation	Nomi- nal Week	Av. Hrly. Earnings	Av. Wkly. Earnings	Index Nos. Hrly.	Index Nos. Wkly.
<i>1914</i>									
July....	2,951	.....	55.4	59.4	60.0	\$.206	\$11.42	100	100
<i>1920</i>									
June....	3,480	4,540	53.7	55.7	55.8	.473	25.40	230	222
July....	3,710	4,882	55.4	58.0	56.4	.474	26.22	230	230
Aug....	4,624	6,152	53.3	56.2	56.1	.480	25.55	233	224
Sept....	4,208	5,628	54.0	55.5	55.6	.486	26.27	236	230
Oct....	3,941	5,281	53.4	53.7	55.6	.478	25.53	232	224
Nov....	3,635	4,871	52.6	55.0	55.3	.474	24.96	230	219
Dec....	3,570	4,576	54.5	54.7	55.2	.450	24.53	218	215
<i>1921</i>									
Jan....	3,136	4,134	52.0	54.0	55.3	.398	20.71	193	181
Feb....	3,242	4,110	51.0	54.2	55.5	.381	19.41	185	170
March..	4,050	5,540	49.9	54.1	55.1	.350	17.45	170	153
April...	3,199	4,179	48.7	53.7	55.1	.343	16.68	167	146
May....	1,994	2,565	51.3	54.2	55.3	.341	17.29	166	151
June...	1,819	2,309	51.0	51.0	55.4	.340	17.33	165	152
July*...	1,777	2,159	49.9	53.0	54.9	.342	17.07	166	149
Aug....	1,886	2,370	50.0	53.1	55.0	.329	16.46	160	144
Sept....	2,366	3,046	49.9	54.5	54.7	.316	15.74	153	138
Oct....	2,106	2,921	50.9	54.2	54.5	.305	15.53	148	136
Nov....	1,867	2,648	50.8	53.5	54.6	.312	15.86	151	139
Dec....	2,076	2,955	52.4	54.3	54.6	.301	15.78	146	138

*See Introduction, p. 2.

January, 1922, was 42% to \$.269. In July, 1914, the average hourly earnings of *male skilled labor* were \$.223. By August 1920 they had risen 165% to \$.592 declining 32.8% to \$.398 from the latter period up to the beginning of 1922. By January, 1922, therefore, the average hourly earnings of male common labor and male skilled labor had increased respectively 37% and 78% over the July, 1914 levels.

(b) *Weekly earnings:* The average weekly earnings of *all wage earners* in July, 1914 were \$11.42. By September, 1920 they had increased 130% to \$26.27. The decline from the latter period up to January, 1922 was 39.9%, at which time the average weekly earnings were \$15.78, a net increase of 38% over July, 1914. Weekly earnings maintained a high level through October, 1920. Beginning in November, due to reduc-

Fertilizer Manufacturing



(National Industrial Conference Board)

tions in both hourly earnings and working hours, decreases began to occur. In January, 1921, weekly earnings decreased more severely. A slight revival occurred in May and June, followed again by continued decline in weekly earnings throughout the remainder of 1921.

In July, 1914 the average weekly earnings of *male common labor* were \$10.66. By September, 1920 they had increased 129% to \$24.43. From the latter period up to January, 1922 they declined 44% to \$13.67. In July, 1914, the average weekly earnings of *male skilled labor* were \$12.83. By August, 1920, they had reached \$36.01, an increase of 181%, declining 36.9% to \$22.74 from the latter period up to the beginning of 1922. By January, 1922, therefore, the weekly earnings for male common and male skilled labor had increased respectively 28% and 77% over the July, 1914 levels.

Employment

Total employment in the establishments covered declined 34.9% from June, 1920 up to the beginning of 1922. The decline in male common labor amounted to 37.1% and in male skilled labor 26.7%. Except for a slight increase in March, 1921, the general trend of employment was steadily downward to July, 1921. The last months of 1921 showed a considerable increase in working forces.

Employment in identical establishments declined 29.7% between July, 1914 and the end of the year 1921.

Hours

In July, 1914, 60 hours constituted the *average nominal week*. By June, 1920, the hours declined to 55.8 and the general level of more than 55 hours was maintained up to July, 1921. The last six months of 1921 with the exception of August, showed a decline to a general level of approximately 54.5 hours.

The *average hours of plant operation* declined from 59.4 hours in July, 1914 to 55.7 hours in June, 1920. It should be noted that in July, 1914, at the height of the spring season, the average hours of plant operation were higher than those of the nominal week. Beginning in October, 1920, there was a decline in plant activity which continued through April, 1921. May showed

Classified Payroll Data—Fertilizer Manufacturing

PERIOD	MALE UNSKILLED			MALE SKILLED			Index Numbers Earnings	Average Weekly Earnings	Average Hourly Earnings	Number Wage Earners	Average Actual Hours	Average Hourly Earnings	Number Wage Earners	Index Numbers Earnings	Average Weekly Earnings	Average Hourly Earnings	Number Wage Earners	Index Numbers Earnings	
	One Week In	Average Actual Hours	Average Hourly Earnings	Hourly	Weekly	Hourly													
1914																			
July.....	1,918	54.3	\$1.96	\$10.66	100	100													
1920																			
June.....	3,602	51.9	.452	23.47	231	220	938	60.3	.544	32.80	244	256							
July.....	3,936	53.7	.453	24.31	231	228	926	62.4	.550	34.37	247	268							
Aug.....	5,214	51.9	.456	23.66	233	222	938	60.8	.592	36.01	265	281							
Sept.....	4,650	52.7	.464	24.43	237	229	978	60.4	.579	35.00	260	273							
Oct.....	4,290	52.0	.452	23.53	231	221	991	59.5	.574	34.17	257	266							
Nov.....	3,905	51.4	.443	22.78	226	214	966	57.6	.587	33.79	263	253							
Dec.....	3,587	53.5	.419	22.40	214	210	989	58.2	.554	32.22	248	251							
1921																			
Jan.....	3,185	50.7	.362	18.36	185	172	949	56.3	.508	28.59	228	223							
Feb.....	3,226	49.4	.343	16.98	175	159	884	56.6	.500	28.29	224	220							
March...	4,682	48.4	.320	15.48	163	145	858	58.4	.484	28.24	217	220							
April....	3,444	47.4	.308	14.58	157	137	735	54.6	.485	26.51	217	207							
May.....	1,977	50.2	.306	15.21	156	143	588	54.9	.452	24.27	203	189							
June....	1,746	49.7	.299	14.85	153	139	563	55.1	.454	25.03	204	195							
July*....	1,493	47.1	.296	13.96	151	131	666	56.1	.429	24.05	192	187							
Aug.....	1,730	47.6	.286	13.62	146	128	640	56.4	.428	24.13	192	188							
Sept.....	2,387	47.8	.281	13.44	143	126	659	57.6	.419	24.09	188	188							
Oct.....	2,244	49.5	.270	13.39	138	126	677	55.3	.409	22.61	183	176							
Nov.....	1,978	49.6	.277	13.74	141	129	670	54.4	.406	22.11	182	172							
Dec.....	2,267	50.9	.269	13.67	137	128	688	57.2	.398	22.74	178								

*See Introduction, p. 2.

considerable increase followed again by a decline in the summer months. The last six months of 1921 showed a sustained level of from 53 to 54 hours per week.

The *average week per wage earner* showed a decline from 55.4 hours in July, 1912 to 53.7 hours in June, 1920. The trend from June, 1920 closely followed that of plant activity. The effect of the industrial depression was shown in working hours, particularly during the last six months of 1921.

Conclusion

The study of wages and hours in the fertilizer manufacturing industry shows that:

1. Average *hourly* earnings of all wage earners on January 1, 1922, stood at \$.301 or 46% above the July, 1914 level of \$.206.
2. Average *weekly* earnings of all wage earners on January 1, 1922, stood at \$15.78 or 38% above the July 1914 level of \$11.42.
3. The reductions from the peak, of 38.1% in hourly earnings and 39.9% in weekly earnings, were far greater than the average in many basic industries.
4. Employment declined 34.9% from June, 1920 up to the beginning of 1922.
5. The fertilizer industry has been very directly affected by the industrial depression. The deflation of agricultural prices curtailed the buying power and credit of farmers and the consequence was an early cessation of demand for agricultural chemicals. The tendency within the industry was to reduce employment rather than to curtail plant activity.
6. While the industry was directly affected by industrial conditions, the indirect effects of seasonal fluctuations were shown in the irregularities of employment and plant activity.

XV

PAINT AND VARNISH MANUFACTURING

The wage investigation in this industry covered plants engaged in the manufacture of white lead, colors, paint and varnish. Returns were received from 58 plants, 54 of which supplied material for the last investigation. The largest number of wage earners employed in any one month in the 58 establishments was 3,978 in August, 1921. Thus, approximately 17% of the wage earners listed in the 1919 Census of Manufactures for the paint and varnish manufacturing industry are covered in this report. Geographically, the distribution within 14 states is as follows:

California.....	3	Missouri.....	4
Colorado.....	1	New Jersey.....	4
Delaware.....	1	New York.....	9
Illinois.....	5	Ohio.....	11
Indiana.....	2	Pennsylvania.....	8
Massachusetts.....	3	Texas.....	1
Michigan.....	4	Wisconsin.....	2

Wages

(a) Hourly earnings: In July, 1914, the average hourly earnings of *all wage earners* were \$.272. By July, 1920 they had risen 112% to \$.578. The decline was 11.2% from the latter period up to January, 1922, at which time the average hourly earnings were \$.513, an increase of 89% over July, 1914. The decline throughout 1920 and 1921 was moderate and gradual, and far less than in many other basic industries.

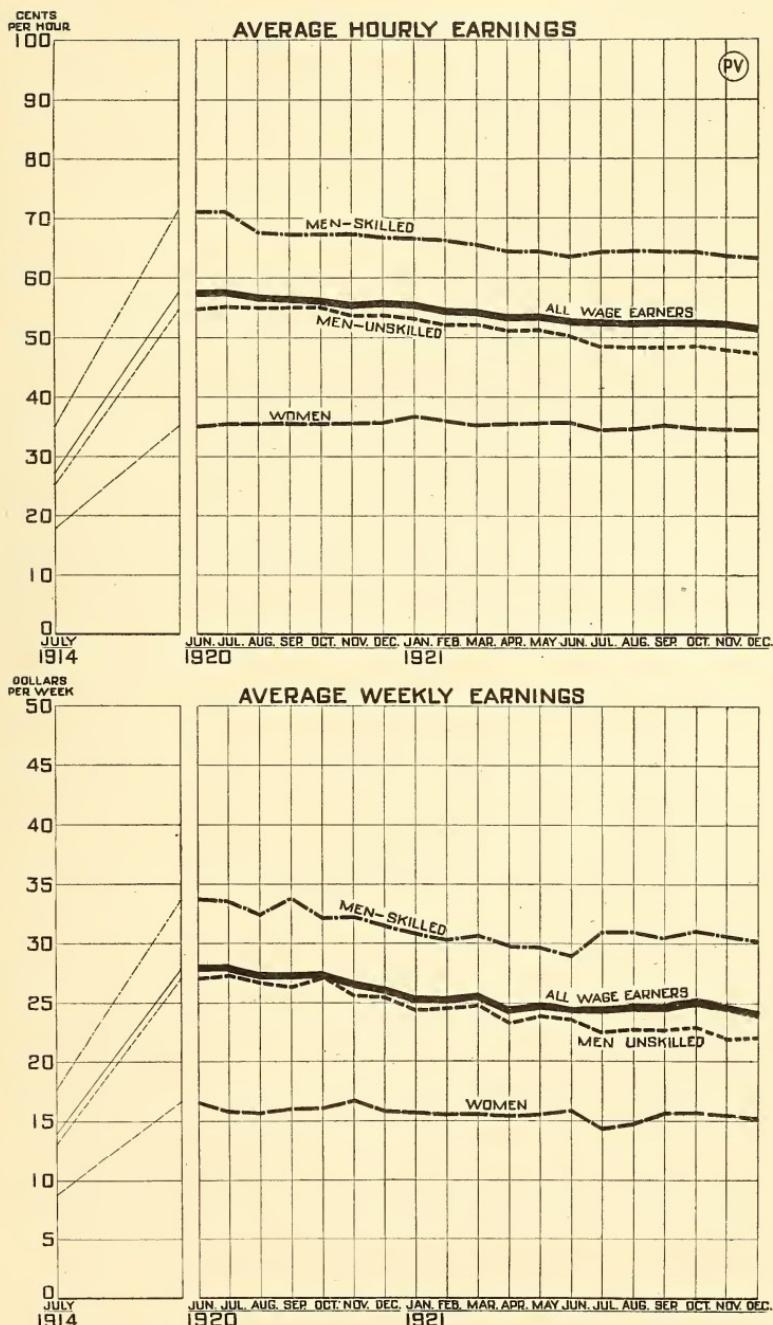
In July, 1914, the average hourly earnings of *male common labor* were \$.252. By July, 1920, they had increased 119%

over July, 1914 to \$.551. From July, 1920 up to January, 1922 they declined 14.7% to \$.47. In July, 1914, the average hourly earnings of *male skilled labor* were \$.351. By June, 1920, they had risen 102% to \$.71 and from the latter period up to the beginning of 1922 declined 11% to \$.632. In July, 1914, the average hourly earnings of *women* were \$.179. By January, 1921 they had risen 105% to \$.367. The decline from this peak up to January, 1922 amounted to 6.5%, the average earnings at the beginning of 1922 being \$.343. By January, 1922, therefore, the average hourly earnings for these three groups had increased respectively 87%, 80%, and 92% over the July, 1914 levels.

(b) Weekly earnings: The average weekly earnings of *all wage earners* in July, 1914 were \$13.96. By July, 1920, they had increased 101% to \$28.00. They declined 14.2% from the latter period up to January, 1922, at which time the average weekly earnings were \$24.03, a net increase of 72% over July, 1914. The trend in weekly earnings was characterized by gradual and moderate declines resulting more from the reduction in working hours than from wage decreases.

In July, 1914 the average weekly earnings of *male common labor* were \$13.03. In July, 1920, they had increased 110% to \$27.34. From the latter period up to January, 1922 they declined 19.4% to \$22.04. In July, 1914, the average weekly earnings of *male skilled labor* were \$17.88. By September, 1920, they had risen 87% to \$33.38, and declined 10.1% to \$30.02 from the latter period up to the beginning of 1922. In July, 1914, the average weekly earnings of *women* were \$8.74. In November, 1920, they reached \$16.77, an increase of 92%. They declined 10.4% from this peak up to January, 1922, when the average weekly earnings were \$15.03. By January, 1922, therefore, the average hourly earnings for these three groups had increased respectively 69%, 68% and 72%, over the July, 1914 levels.

Paint and Varnish Manufacturing



(National Industrial Conference Board)

Composite Payroll Data—Paint and Varnish Manufacturing

Period One Week In	Number Wage Earners Employed		Average Hours			Wages (All Wage Earners)				
	1914-22 Establ. (37 plants)	1920-22 Establ. (58 plants)	Av. Week Per Wage Earner	Av. Hours Plant Oper- ation	Nomi- nal Week	Av. Hrly. Earnings	Av. Wkly. Earnings	Index Nos. Earnings	Hrly.	Wkly.
<i>1914</i>										
July....	1,073	....	51.3	52.1	53.1	\$.272	\$13.96	100	100	
<i>1920</i>										
June...	1,838	3,819	48.6	50.9	49.6	.575	27.93	211	200	
July....	1,855	3,931	48.4	50.0	49.9	.578	28.00	212	201	
Aug....	1,936	3,978	48.0	49.4	49.7	.569	27.31	209	196	
Sept....	1,963	3,821	48.1	50.0	50.0	.568	27.34	209	196	
Oct....	1,901	3,603	48.7	50.4	47.3	.525	24.81	193	178	
Nov....	1,729	3,285	48.0	48.4	49.4	.555	26.62	204	191	
Dec....	1,586	2,879	46.9	47.8	49.6	.558	26.19	205	188	
<i>1921</i>										
Jan.....	1,472	2,708	45.7	47.0	49.4	.555	25.37	204	182	
Feb....	1,488	2,711	46.3	47.6	49.4	.546	25.27	201	181	
March..	1,416	2,673	47.1	48.0	49.8	.543	25.58	200	183	
April...	1,454	2,708	45.7	48.2	50.2	.535	24.43	197	175	
May....	1,422	2,704	46.3	46.9	49.5	.535	24.79	197	178	
June...	1,452	2,732	46.4	47.5	49.4	.527	24.46	194	175	
July*...	1,420	2,554	46.5	48.5	49.9	.526	24.44	193	175	
Aug....	1,410	2,521	47.0	48.4	49.6	.524	24.63	193	176	
Sept....	1,391	2,479	46.8	48.8	49.7	.525	24.56	193	176	
Oct....	1,419	2,508	48.1	48.9	49.5	.523	25.14	192	180	
Nov....	1,385	2,453	46.4	48.0	49.6	.522	24.17	192	173	
Dec....	1,310	2,391	46.8	47.7	49.8	.513	24.03	189	172	

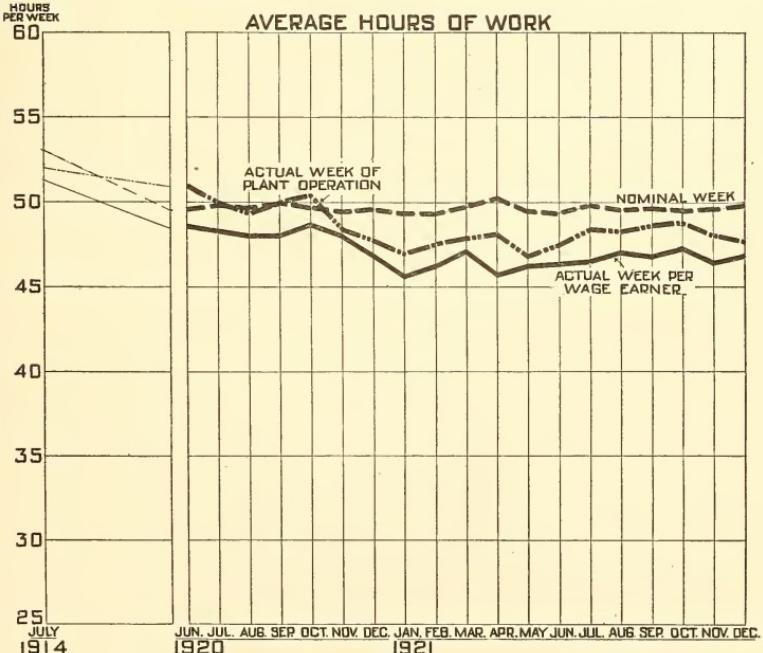
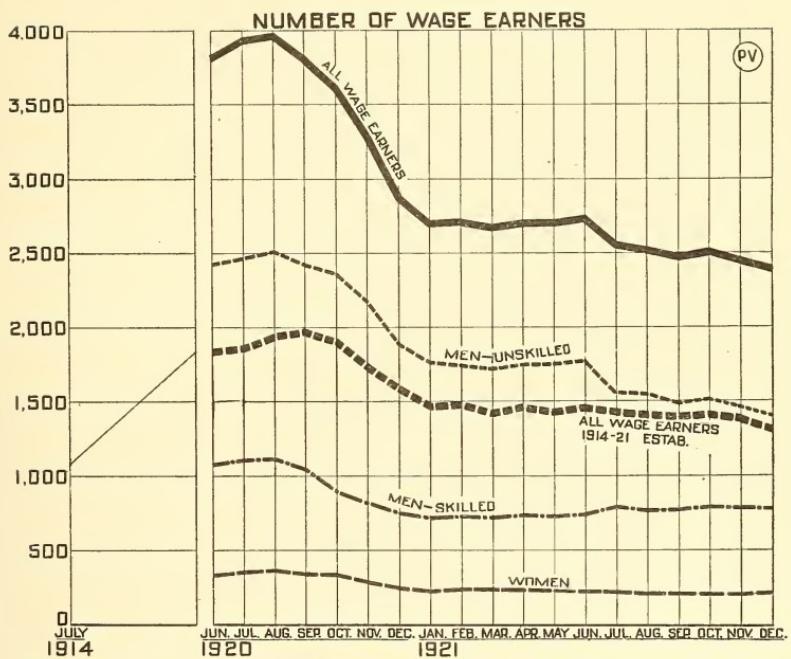
*See Introduction, p. 2.

Employment

Total employment decreased 37.4% from June, 1920 up to January, 1922. The trend of employment shows a gradual curtailment of working forces during 1920 and 1921, the low level being reached at the close of the present study in December, 1921. During the period from June, 1920, to the beginning of 1922, the numbers of male common labor employed dropped 42%, those of male skilled labor 27%, and of women 37.2%.

Employment in identical establishments between July, 1914 and the end of the year 1921 increased 22.1%, but the decline

Paint and Varnish Manufacturing



(National Industrial Conference Board)

between June, 1920 and January 1, 1922 in these same establishments amounted to 28.7%.

Hours

In July, 1914, 53.1 hours constituted the *average nominal week*. Following a general reduction in length of working hours during the war period, the workweek fell to 49.6 hours in June, 1920 and the latter standard was practically maintained to the close of the year 1921.

The *average hours of plant operation* in July, 1914 were 52.1. By June, 1920 they had been reduced to 50.9. By the beginning of 1921 there was a considerable decline in plant activity. There was a revival of production during the summer months of 1921, followed by a decrease at the close of the year.

The *average week per wage earner* showed a decline from 51.3 hours in July, 1914, to 48.6 hours in June, 1920. The depression which took effect in December, 1920 continued for the entire year, so that the average week per wage earner reached in December, 1921 the low level of 46.8 hours. There were slight increases during the spring and summer months of 1921. The decline in hours affected earnings more directly than did wage reductions, yet the tendency was to reduce the number of wage earners rather than to cut hours severely.

Conclusion

The study of wages and hours in paint and varnish manufacturing shows that:

1. Average *hourly* earnings of all wage earners on January 1, 1922 stood at \$.513, or 89% above the July, 1914 level of \$.272.
2. Average *weekly* earnings of all wage earners on January 1, 1922 stood at \$24.03, or 72% above the 1914 level of \$13.96.

Classified Payroll Data—Paint and Varnish Manufacturing

PERIOD	MALE UNSKILLED				MALE SKILLED				FEMALE				
	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings	
				Hourly	Weekly	Hourly	Weekly	Hourly	Weekly	Hourly	Weekly	Hourly	
1914 July..	730	51.7	\$ 252	\$13.03	100	270	51.0	\$351	\$17.88	100	73	48.9	\$8.74
1920 June..	2,416	49.4	.548	27.07	217	208	1,070	46.9	.710	33.37	202	187	333
July..	2,470	49.6	.551	27.34	219	210	1,108	47.0	.710	33.36	202	187	353
Aug..	2,503	48.5	.550	26.70	218	205	1,111	48.0	.676	32.48	193	182	364
Sept..	2,426	47.9	.550	26.33	218	202	1,051	49.6	.672	33.38	191	187	344
Oct..	2,371	49.4	.550	27.17	218	209	897	47.9	.672	32.20	191	180	335
Nov..	2,187	48.0	.537	25.77	213	198	815	48.1	.672	32.32	191	181	283
Dec..	1,885	47.1	.539	25.41	214	195	750	47.2	.668	31.51	190	176	244
1921 Jan..	1,763	46.0	.531	24.40	211	187	719	46.1	.667	30.79	190	172	226
Feb..	1,747	47.0	.521	24.49	207	188	732	45.5	.664	30.21	189	169	232
Mar..	1,714	47.6	.521	24.81	207	190	722	46.8	.656	30.70	187	172	237
April..	1,743	45.8	.511	23.38	203	179	733	46.3	.644	29.80	183	167	232
May..	1,747	46.8	.512	23.95	203	184	727	46.2	.644	29.77	183	167	230
June..	1,768	47.1	.502	23.65	199	182	743	45.6	.635	28.95	181	162	221
July*	1,548	46.2	.486	22.50	193	173	792	48.1	.644	30.95	183	173	214
Aug..	1,541	47.1	.484	22.79	192	175	773	48.0	.645	30.96	184	173	207
Sept..	1,499	46.9	.484	22.71	192	174	777	47.3	.644	30.49	183	171	203
Oct..	1,508	47.2	.484	22.83	192	175	792	48.2	.644	31.02	183	173	208
Nov..	1,463	45.7	.480	21.94	190	168	784	48.0	.639	30.67	182	172	206
Dec..	1,401	46.9	.470	22.04	187	169	781	47.5	.632	30.02	180	168	209

*See Introduction, p. 2.

3. The decreases from the peak in 1920 to the beginning of 1922, of 11.2% in hourly earnings and 14.2% in weekly earnings, were smaller than in many basic industries. The general tendency was to reduce hours rather than wages.

4. Stagnation in demand caused a curtailment of working hours and a decrease of 37.4% in employment from June, 1920 to January, 1922.

XVI

PAPER MANUFACTURING

A. Paper and Wood Pulp Manufacturing

The data for this industry cover establishments producing paper and wood pulp. Secondary paper manufacturing has been treated in a separate industrial section, entitled "Paper Products Manufacturing." Returns were received from 118 plants, 109 of which furnished information in the last wage investigation. The largest number of wage earners employed in any one month in the 118 establishments was 30,021 in July, 1920. Thus, approximately 26% of the wage earners reported by the 1919 Census of Manufactures for the paper and wood pulp industry are covered in this report. The geographical distribution within 17 states and Canada is as follows:

Connecticut.....	2	New Jersey.....	6
Illinois.....	1	New York.....	25
Indiana.....	1	Ohio.....	9
Iowa.....	1	Pennsylvania.....	6
Maine.....	10	Vermont.....	4
Massachusetts.....	26	Virginia.....	3
Michigan.....	3	Washington.....	1
Minnesota.....	1	Wisconsin.....	15
New Hampshire.....	3	Canada.....	1

Wages

(a) Hourly earnings: In July, 1914, the average hourly earnings of *all wage earners* were \$.223. By November, 1920, they had increased 169% to \$.600. The decline was 23.3% from the latter period up to January, 1922, at which time the average hourly earnings were \$.460, an increase of 106% over July, 1914. A gradual decline took place from November, 1920, to April, 1921. In May, 1921, an average reduction of 4.3 cents per hour occurred. The last six months of 1921 were characterized by further gradual reductions.

In July, 1914 the average hourly earnings of *male common labor* were \$.204. By October, 1920, they had increased 173% to \$.557. The decline from the latter period up to January, 1922 was 30% to \$.390. In July, 1914, the average hourly

earnings of *male skilled labor* were \$.264. By November, 1920, they had risen 146% to \$.650, and declined 20% to \$.520 from the latter period up to the beginning of 1922. In July, 1914, the average hourly earnings of *women* were \$.136. In July, 1920, they had risen 193% to \$.399. The decline from this peak up to January, 1922 amounted to 21.1%, the average earnings at the beginning of 1922 being \$.315. By January, 1922, therefore, the average hourly earnings of these three groups had increased respectively 91%, 97% and 132% over July, 1914 levels.

(b) *Weekly earnings:* The average weekly earnings of *all wage earners* in July, 1914, were \$12.14. By October, 1920, they had increased 158% to \$31.27. The decline from the latter period up to January, 1922 was 22.7%, at which time the average weekly earnings were \$24.17, a net increase of 99% over July, 1914. The general high level of weekly earnings was maintained through 1920. In the spring of 1921 an extensive decline took place, due to reductions in hourly rates and a decline in working hours. The last six months of 1921 showed a gain in weekly earnings due to increases in working hours, although reductions in hourly rates continued.

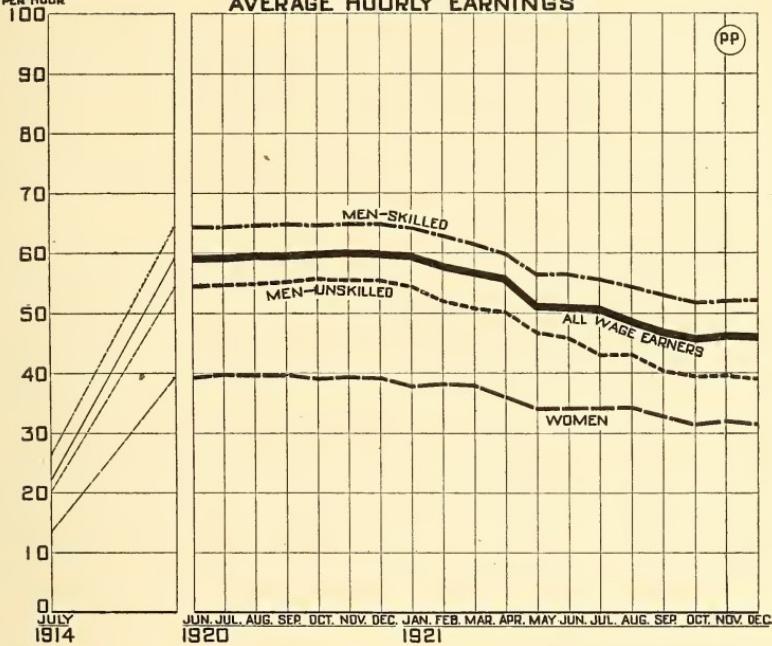
In July, 1914, the average weekly earnings of *male common labor* were \$11.26. By October, 1920, they had increased 155% to \$28.68. From the latter period up to January, 1922 they declined 28% to \$20.64. In July, 1914, the average weekly earnings of *male skilled labor* were \$15.13. By October, 1920, they had reached \$34.80, an increase of 130%, and then declined 19.6% to \$27.98 from the latter period up to the beginning of 1922. In July, 1914, the average weekly earnings of *women* were \$6.28. In July and September, 1920, they had increased 196% to \$18.58. The decline from this peak up to January, 1922, amounted to 24.4%, the average wage at the beginning of 1922 being \$14.04. By January, 1922, therefore, the weekly earnings for these three groups had increased respectively 84%, 85% and 124% over July, 1914 levels.

Employment

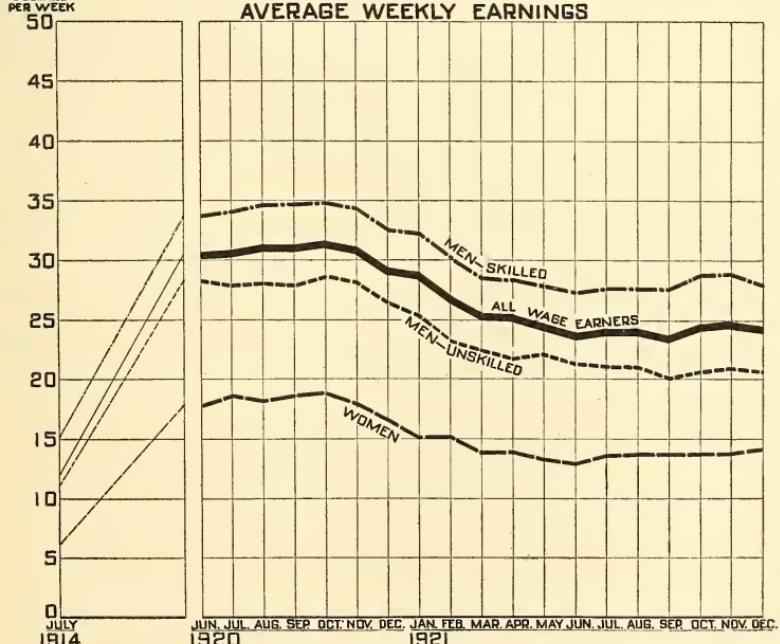
Total employment in the establishments covered declined 26.1% from June, 1920 up to the beginning of 1922. The per-

Paper and Wood Pulp Manufacturing

DENTS
PER HOUR



DOLLARS
PER WEEK



(National Industrial Conference Board)

Composite Payroll Data—Paper and Wood Pulp Manufacturing

Period	Number Wage Earners Employed		Average Hours			Wages (All Wage Earners)			
	One Week In	1914-22 Establ. (73 plants)	Total All Establ. (118 plants)	Av. Week Per Wage Earner	Av. Hours Plant Operation	Nominal Week	Av. Hrly. Earnings	Av. Wkly. Earnings	Index Nos. Earnings
									Hrly. Wkly.
<i>1914</i>									
July....	13,791	.....	54.5	137.9	56.5	\$.223	\$12.14	100	100
<i>1920</i>									
June....	20,307	29,824	51.4	142.4	51.0	.590	30.35	265	250
July....	20,363	30,021	51.7	141.6	51.0	.591	30.56	265	252
Aug....	20,234	29,905	52.0	141.6	50.9	.595	30.94	267	255
Sept....	20,380	29,952	51.9	141.7	50.6	.596	30.91	267	255
Oct.....	20,346	29,861	52.4	140.6	51.1	.597	31.27	268	258
Nov....	19,857	29,275	51.5	139.0	51.0	.600	30.85	269	254
Dec....	19,198	28,518	48.7	131.2	50.5	.599	29.14	269	240
<i>1921</i>									
Jan....	17,185	25,538	48.2	132.2	50.9	.596	28.72	267	237
Feb....	17,402	25,160	46.2	130.0	49.8	.578	26.71	259	220
March..	16,229	23,239	44.8	123.0	50.4	.565	25.28	253	208
April...	16,189	24,130	45.4	126.4	50.5	.555	25.17	249	207
May....	14,615	16,589	47.5	124.1	51.3	.512	24.35	230	201
June....	13,984	15,338	46.4	125.8	51.2	.509	23.63	228	195
July*....	14,867	17,247	47.2	124.9	52.5	.506	23.89	227	197
Aug....	15,066	18,185	48.9	127.7	51.9	.488	23.90	219	197
Sept....	15,504	19,417	49.9	131.1	51.7	.470	23.44	211	193
Oct....	16,213	20,822	53.1	140.9	51.2	.458	24.30	205	200
Nov....	16,132	21,798	53.3	140.7	51.0	.462	24.62	207	203
Dec....	16,360	22,032	52.6	136.9	51.4	.460	24.17	206	199

*See Introduction, p. 2.

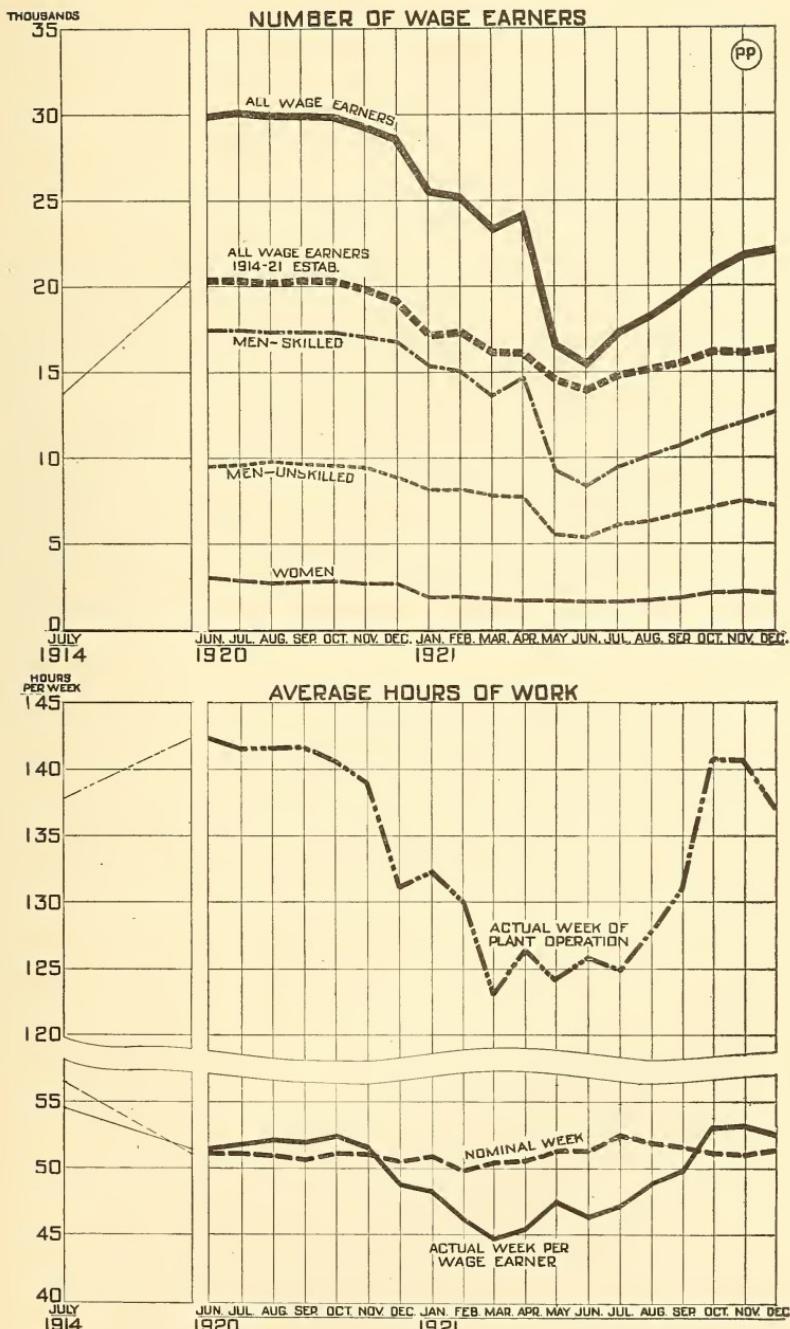
centages of decline in the three groups during this period were as follows: male common labor, 22.8%; male skilled labor, 27.8%; and women, 26.9%. The lowest level of employment was reached during May and June, 1921, and was caused by strike conditions existing in many plants at that time. The last six months of 1921 showed a considerable increase in employment.

Employment in identical establishments between July, 1914 and the end of the year 1921 increased 18.6%.

Hours

In July, 1914, 56.5 hours constituted the *average nominal week*. Following the general reduction of working hours during

Paper and Wood Pulp Manufacturing



(National Industrial Conference Board)

the war period, there was a decline to 51 hours in June, 1920, and a general level of from 50-51 hours was maintained through June, 1921. In July, 1921, there was a sudden increase to 52.5 hours and the following months showed a decline to the former level of slightly more than 51 hours.

The *average hours of plant operation* increased from 137.9 hours in July, 1914, to 142.4 hours in June, 1920. This general level of plant activity continued through October, 1920. The first six months of 1921 showed a continual decline in plant activity, and were affected particularly by strike conditions during May and June. The last six months of 1921 showed a steady increase in plant operation, except for a slight decline occurring in December, 1921.

The *average actual week per wage earner* showed a decline from 54.5 hours in July, 1914, to 51.4 hours in June, 1920. The general trend of working hours followed the movement of plant activity. The last six months of 1921 were characterized by a steady increase in working hours except for a slight decline in December. Longer working hours increased the weekly earnings, although hourly rates were reduced.

Conclusion

The study of wages and hours in paper and wood pulp manufacturing shows that:

1. Average *hourly* earnings of all wage earners on January 1, 1922, stood at \$.460, or 106% above the July, 1914 level of \$.223.
2. Average *weekly* earnings of all wage earners on January 1, 1922 stood at \$24.17, or 99% above the July, 1914 level of \$12.14.
3. The wage reductions of 23.3% in hourly earnings and 22.7% in weekly earnings were in general accord with reductions in many basic industries.
4. Employment decreased more than 26% from June, 1920 to the beginning of January, 1922.
5. The last six months of 1921 were characterized by considerable increases in employment, working hours and productive activity.

Classified Payroll Data—Paper and Wood Pulp Manufacturing

PERIOD	MALE UNSKILLED				MALE SKILLED				WOMEN			
	No. One Week In	Av. Actual Hours	Av. Hourly Earn- ings	Av. Weekly Earn- ings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earn- ings	Av. Weekly Earn- ings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earn- ings	Av. Weekly Earn- ings
1914												
July...	5,069	55.1	\$204	\$11.26	100	6,280	57.3	\$264	\$15.13	100	2,442	\$136
1920												
June...	9,404	51.9	.544	28.23	267	251	17,412	.522	.644	33.66	244	222
July...	9,572	51.0	.546	27.85	268	247	17,501	.529	.643	34.06	244	225
Aug...	9,708	51.0	.550	28.03	270	249	17,418	.536	.646	34.63	245	229
Sept...	9,656	50.4	.552	27.84	271	247	17,408	.535	.648	34.66	245	229
Oct...	9,579	51.5	.557	28.68	273	255	17,428	.538	.647	34.80	245	230
Nov...	9,427	50.6	.556	28.15	273	250	17,178	.529	.650	34.35	246	227
Dec...	8,962	47.8	.555	26.50	272	235	16,880	.501	.649	32.54	246	215
1921												
Jan...	8,163	46.5	.545	25.32	267	225	15,420	.502	.643	32.24	244	213
Feb...	8,117	44.5	.520	23.13	255	205	15,049	.480	.629	30.18	238	199
Mar...	7,821	44.2	.507	22.37	249	199	13,613	.462	.616	28.48	233	188
April...	7,701	43.3	.502	21.76	246	193	14,639	.473	.599	28.35	227	187
May...	5,506	47.3	.467	22.09	229	196	9,300	.493	.565	27.81	214	184
June...	5,371	46.5	.459	21.32	225	189	8,332	.482	.566	27.24	214	180
July*	6,112	48.8	.430	21.00	211	187	9,443	.495	.558	27.61	211	182
Aug...	6,372	48.9	.430	21.00	211	187	10,047	.505	.545	27.52	206	182
Sept...	6,756	49.6	.405	20.88	199	178	10,714	.515	.530	27.35	201	181
Oct...	7,193	52.4	.394	20.66	193	183	11,415	.554	.518	28.67	196	190
Nov...	7,484	53.1	.395	20.99	194	186	12,073	.553	.522	28.89	198	191
Dec...	7,258	53.0	.390	20.64	191	184	12,574	.538	.520	27.98	197	185
	175											

*See Introduction, p. 2.

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B. Paper Products Manufacturing

The data for this industry are confined to establishments engaged in the manufacture of paper products, such as paper bags, cardboard and miscellaneous paper goods. Returns were received from 47 of the 56 plants covered in the last investigation. The largest number of wage earners employed in any one month in the 47 establishments was 7,080 in October, 1920. Thus, approximately 23.5% of the wage earners reported by the 1919 Census of Manufactures for the paper product industry are covered in this report. The geographical distribution within 14 states is as follows:

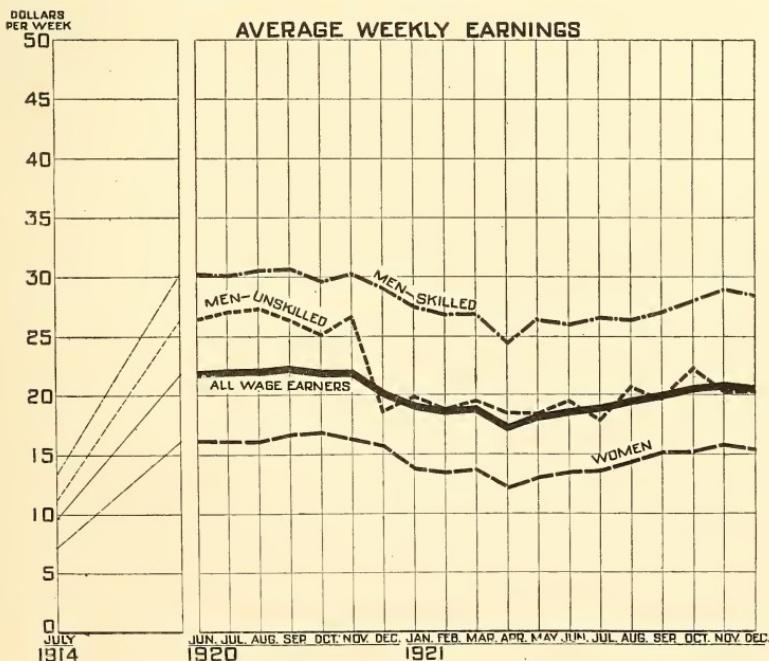
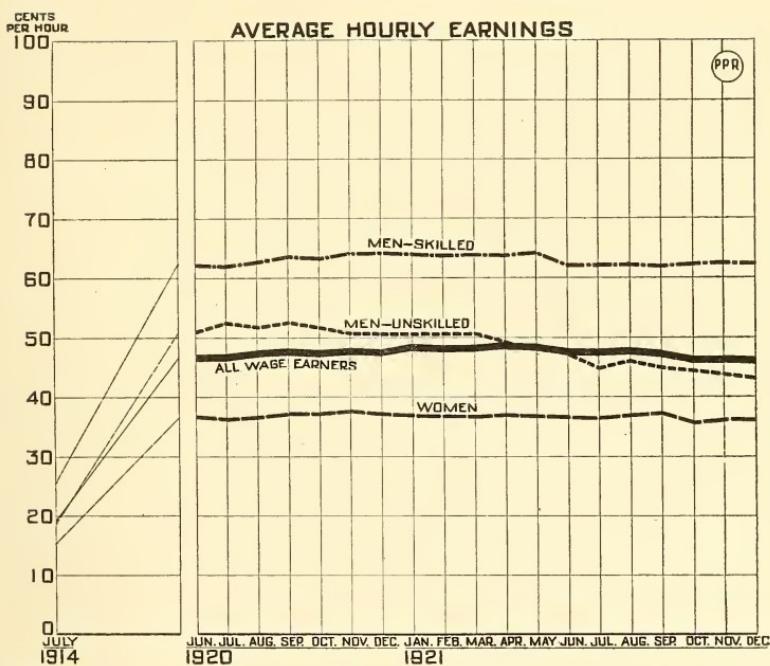
California.....	1	Michigan.....	1
Colorado.....	1	Minnesota.....	1
Connecticut.....	4	New Jersey.....	1
Illinois.....	5	New York.....	3
Indiana.....	4	Ohio.....	5
Maine.....	1	Pennsylvania.....	2
Massachusetts.....	16	Wisconsin.....	2

Wages

(a) Hourly earnings: In July, 1914, the average hourly earnings of *all wage earners* were \$192. By April, 1921, they had increased 153% to \$.485. The decline from the latter period up to January, 1922, was 5.4%, at which time the average hourly earnings were \$.459, an increase of 139% over July, 1914. The trend of hourly earnings shows that the peak was reached in the spring of 1921, considerably later than in most industries. There has been little decline from the peak and the trend has been marked by more or less stationary conditions throughout 1920-1921.

In July, 1914 the average hourly earnings of *male common labor* were \$.188. By September, 1920, they had increased 180% to \$.527. The decline from the latter period up to January, 1922 was 18.8% to \$.428. In July, 1914, the average hourly earnings of *male skilled labor* were \$.256. By December, 1920, they had risen 151% to \$.642 and declined 3.3% to \$.621 from the latter period up to the beginning of 1922. In July, 1914, the average hourly earnings of *women* were \$.154. In November, 1920, they had risen 144% to \$.375. The decline from this peak up to January, 1922 amounted to 4.5%, the

Paper Products Manufacturing



(National Industrial Conference Board)

Composite Payroll Data—Paper Products Manufacturing

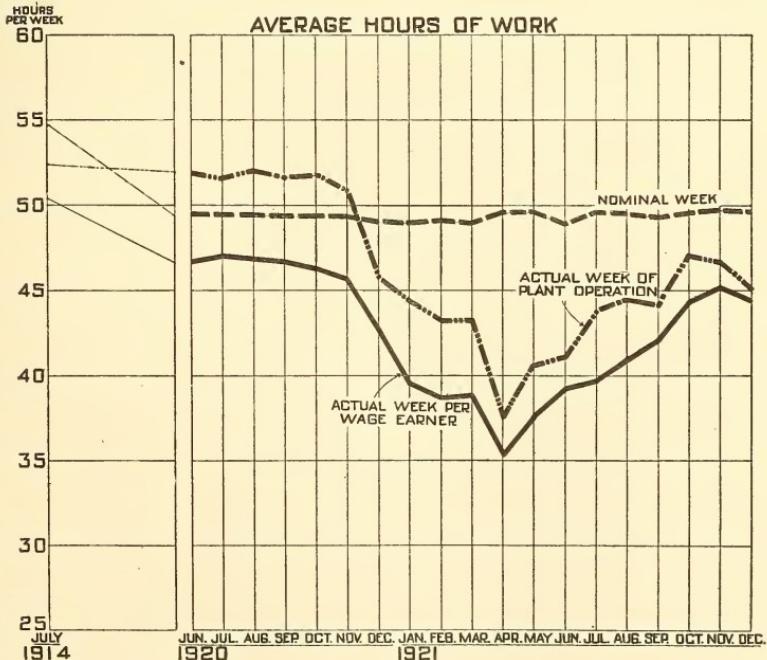
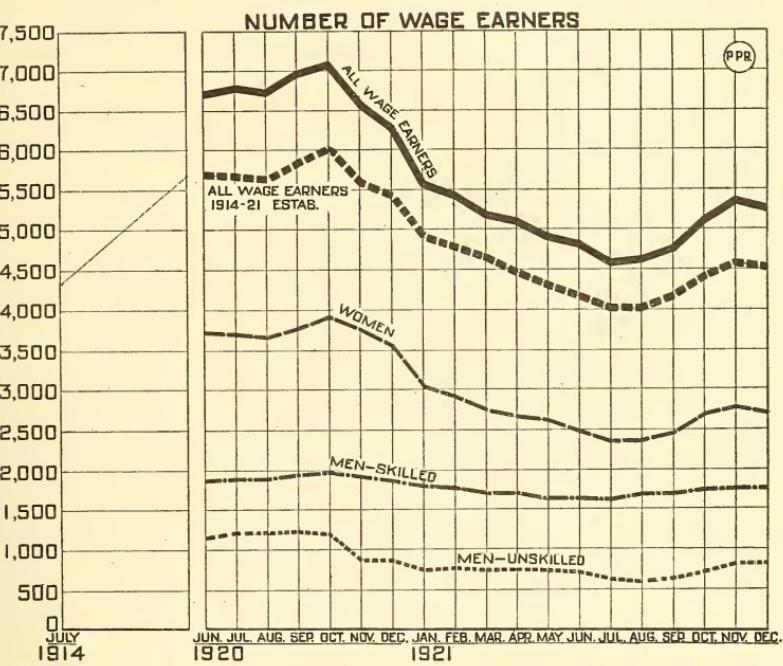
Period	Number Wage Earners Employed		Average Hours			Wages (All Wage Earners)			
	1914-22 Establ. (39 plants)	Total All Establ. (47 plants)	Av. Week Per Wage Earner	Av. Hours Plant Operation	Nominal Week	Av. Hrly. Earnings	Av. Wkly. Earnings	Index Nos. Earnings	
One Week In								Hrly.	Wkly.
<i>1914</i>									
July....	4,336	.....	50.3	52.4	54.8	\$.192	\$9.68	100	100
<i>1920</i>									
June....	5,678	6,706	46.6	51.9	49.4	.466	21.74	243	225
July....	5,668	6,792	47.0	51.6	49.4	.467	21.92	243	226
Aug....	5,621	6,724	46.8	52.0	49.4	.471	22.05	245	228
Sept....	5,841	6,950	46.6	51.1	49.4	.476	22.17	248	229
Oct.....	6,013	7,080	46.2	51.8	49.3	.471	21.74	245	225
Nov....	5,587	6,565	45.6	50.8	49.3	.476	21.73	248	224
Dec....	5,416	6,266	42.5	45.7	49.1	.472	20.05	246	207
<i>1921</i>									
Jan....	4,904	5,574	39.5	44.3	49.0	.482	19.05	251	197
Feb....	4,773	5,438	38.6	43.2	49.1	.481	18.58	251	192
Mar....	4,642	5,166	38.9	43.2	49.0	.482	18.78	251	194
April....	4,479	5,089	35.4	37.6	49.6	.485	17.17	253	177
May....	4,307	4,929	37.6	40.6	49.6	.482	18.10	251	187
June....	4,164	4,824	39.1	41.0	48.9	.473	18.51	246	191
July*....	4,030	4,578	39.6	43.7	49.6	.472	18.71	246	193
Aug....	4,024	4,600	41.0	44.5	49.5	.475	19.46	247	201
Sept....	4,154	4,755	42.0	44.2	49.3	.472	19.82	246	205
Oct....	4,409	5,116	44.2	47.0	49.6	.462	20.41	241	211
Nov....	4,564	5,341	45.1	46.6	49.8	.461	20.76	240	214
Dec....	4,512	5,258	44.4	45.0	49.6	.459	20.34	239	210

*See Introduction, p. 2.

average earnings at the beginning of 1922 being \$.358. By January, 1922, therefore, the average hourly earnings of these three groups had increased respectively 128%, 143% and 132% over the July, 1914 levels.

(b) Weekly earnings: The average weekly earnings of all wage earners in July, 1914, were \$9.68. By September, 1920, they had increased 129% to \$22.17. The decline from the latter period up to January, 1922 was 8.3%, at which time the average weekly earnings were \$20.34, a net increase of 110% over July, 1914. The trend showed a gradual decline from the peak through March, 1921. Beginning in April, 1921, a steady increase took place in weekly earnings, due to a continual increase in working hours. In general, the trend of weekly

Paper Products Manufacturing



(National Industrial Conference Board)

earnings was affected by fluctuations in working hours more than by reductions in hourly earnings.

In July, 1914, the average weekly earnings of *male common labor* were \$11.23. By August, 1920, they had increased 143% to \$27.26. From the latter period up to January, 1922, they declined 26.2% to \$20.11. In July, 1914, the average weekly earnings of *male skilled labor* were \$13.41. By September, 1920, they had reached \$30.53, an increase of 128%, and declined from the latter period up to the beginning of 1922, 7.1% to \$28.37. In July, 1914, the average weekly earnings of *women* were \$7.15. In October, 1920, they had increased 135% to \$16.77. The decline from this peak up to January, 1922 amounted to 8.9%, the average wage at the beginning of 1922 being \$15.27. By January, 1922, therefore, the weekly earnings for these three groups had increased respectively 79%, 112% and 114% over the July, 1914 levels.

Employment

Total employment in the establishments covered declined 21.6% from June, 1920 up to the beginning of 1922. The decline in the three groups during this period was as follows: male common labor, 27.5%; male skilled labor, 6.4%, and women 27.3%. The tendency during the depression period, therefore, was to lay off common labor and women rather than skilled help. An increase in employment took place during the last six months of 1921.

Employment in identical establishments increased 4.1% between July, 1914 and the end of the year 1921.

Hours

In July, 1914, 54.8 hours constituted the *average nominal week*. By June, 1920, the hours declined to 49.4 and it will be noted at this time that the average hours of plant operation were higher than those of the nominal week. The general level of between 49-50 hours was maintained up to January, 1922.

The *average hours of plant operation* in 1914 were 52.4. Plant activity was well sustained through October, 1920. The first six months of 1921 showed a depressed condition in plant activity, while considerable increase was noted during the last six months of 1921.

Classified Payroll Data—Paper Products Manufacturing

PERIOD	MALE UNSKILLED						MALE SKILLED						WOMEN					
	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Av. Weekly Earnings	Index Nos. Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Av. Weekly Earnings	Index Nos. Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Av. Weekly Earnings	Index Nos. Earnings	No. Wage Earners	Av. Actual Hours	
1914	654	59.7	\$1.188	\$11.23	100	100	1,322	52.4	\$256	\$13.41	100	100	2,360	46.5	\$1.54	\$7.15	100	100
1920	1,133	51.8	.509	26.39	271	235	1,852	48.5	.621	30.11	243	225	3,721	44.1	.366	16.15	238	226
June ..	1,206	51.6	.523	27.00	278	240	1,885	48.6	.619	30.06	242	224	3,701	44.6	.362	16.12	235	225
July ..	1,208	52.7	.517	27.26	275	243	1,861	48.7	.625	30.44	244	227	3,655	43.9	.366	16.05	238	224
Aug. ..	1,223	50.1	.527	26.38	280	235	1,931	48.1	.635	30.53	248	228	3,796	44.7	.371	16.56	241	232
Sept. ..	1,197	48.5	.517	25.04	275	223	1,968	47.0	.631	29.63	246	221	3,915	45.0	.372	16.77	242	235
Oct. ..	863	52.3	.509	26.62	271	237	1,938	47.1	.641	30.16	250	225	3,764	43.4	.375	16.26	244	227
Nov. ..	856	57.0	.505	18.69	269	166	1,865	45.4	.642	29.15	251	217	3,545	42.2	.370	15.60	240	218
Dec. ..																		
1921	744	39.2	.505	19.79	269	176	1,800	42.9	.639	27.46	250	205	3,030	37.6	.369	13.87	240	194
Jan. ..	774	37.3	.505	18.83	269	168	1,759	42.2	.637	26.88	249	200	2,905	36.8	.367	13.49	238	189
Feb. ..	749	38.6	.493	19.49	269	174	1,682	42.2	.638	26.89	249	201	2,735	37.0	.367	13.59	238	190
Mar. ..	753	37.4	.493	18.45	262	164	1,683	38.4	.637	24.49	249	183	2,653	32.9	.370	12.17	240	170
April ..	724	37.8	.485	18.36	258	163	1,602	41.0	.641	26.29	250	196	2,603	35.3	.368	12.98	239	182
May ..	705	41.3	.470	19.38	250	173	1,621	41.9	.620	25.98	242	194	2,498	36.7	.365	13.41	237	188
June ..																		
July *	610	40.1	.447	17.93	238	160	1,601	42.9	.620	26.59	242	198	2,367	37.3	.364	13.58	236	190
Aug. ..	580	44.9	.457	20.49	243	182	1,664	42.4	.621	26.32	243	196	2,356	39.0	.369	14.37	240	201
Sept. ..	636	43.5	.448	19.50	238	174	1,668	43.6	.618	26.98	241	201	2,451	40.4	.372	15.03	242	210
Oct. ..	705	49.2	.446	21.95	237	195	1,726	45.0	.622	27.99	243	209	2,685	42.4	.357	15.13	232	212
Nov. ..	827	46.2	.436	20.14	232	179	1,743	46.6	.623	29.04	243	217	2,771	43.7	.360	15.74	234	220
Dec. ..	821	47.0	.428	20.11	228	179	1,733	45.7	.621	28.37	243	212	2,704	42.7	.358	15.27	232	214

*See Introduction, p. 2.

The *average actual week per wage earner* showed a decline from 50.3 hours in July, 1914 to 46.6 hours in June, 1920. The general trend of working hours followed the movement of plant hours. Beginning in May there was a considerable increase in working hours, which had a marked effect upon the average weekly earnings of all wage earners.

Conclusion

The study of wages and hours in paper products manufacturing shows that:

1. Average *hourly* earnings of all wage earners on January 1, 1922, stood at \$.459 or 139% above the July, 1914 level of \$.192.
2. Average *weekly* earnings of all wage earners on January 1, 1922 stood at \$ 20.34, or 110% above the July, 1914 level of \$ 9.68.
3. The declines of 5.4% in hourly earnings and 8.3% in weekly earnings from the peak were slight in comparison with the majority of basic industries.
4. An increase in weekly earnings was noted during the last six months of 1921, due to longer working hours.
5. In general, the industry showed fairly well sustained conditions during the industrial depression.

XVII

PRINTING AND PUBLISHING

A. Book and Job

The data for this industry cover 283 establishments engaged in book and job printing, all of which supplied information for the last wage investigation. The largest number of wage earners employed in any one month was 18,572, in August, 1920. The geographical distribution within 31 states and the District of Columbia is as follows:

Alabama.....	2	Montana.....	2
California.....	12	Nebraska.....	2
Colorado.....	2	New Hampshire.....	1
Connecticut.....	2	New Jersey.....	7
District of Columbia.....	2	New York.....	47
Georgia.....	4	North Dakota.....	1
Illinois.....	32	Ohio.....	40
Indiana.....	12	Pennsylvania.....	16
Iowa.....	4	Rhode Island.....	4
Kansas.....	3	South Dakota.....	2
Kentucky.....	4	Tennessee.....	6
Maine.....	2	Texas.....	1
Massachusetts.....	19	Utah.....	1
Michigan.....	10	Virginia.....	6
Minnesota.....	9	Washington.....	6
Missouri.....	11	Wisconsin.....	11

Wages

(a) Hourly earnings: In July, 1914, the average hourly earnings of *all wage earners* were \$.304. By June and October, 1921, they had increased 108% to \$.631, and declined 2.5% from these peaks up to January, 1922, at which time the average hourly earnings were \$.615, an increase of 102% over July, 1914. The general high level of hourly earnings was maintained in 1921, with the high points in June and October, followed by a moderate decline to the beginning of 1922.

In July, 1914 the average hourly earnings of *male common labor* were \$.198. By October, 1920, they had increased 134% to \$.464. The decline from the latter period up to January, 1922 was 7.3% to \$.430. In July, 1914, the average hourly earnings of *male skilled labor* were \$.398. By December, 1920 they had increased 103% to \$.807 and then declined 2.7% to

\$.785 from the latter period up to the beginning of 1922. In July, 1914, the average hourly earnings of *women* were \$.158. By November, 1920, they had increased 130% to \$.364. The decline from this peak up to January, 1922, amounted to 2.7%, the average hourly earnings being \$.355 at the latter period. By January, 1922, therefore, the average hourly earnings of the three groups had increased respectively 117%, 97% and 125% over the July, 1914 levels.

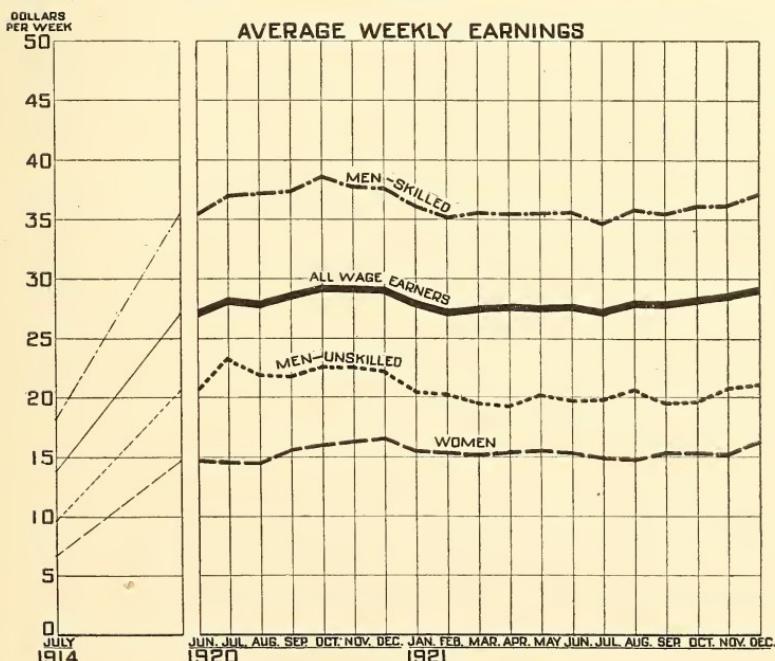
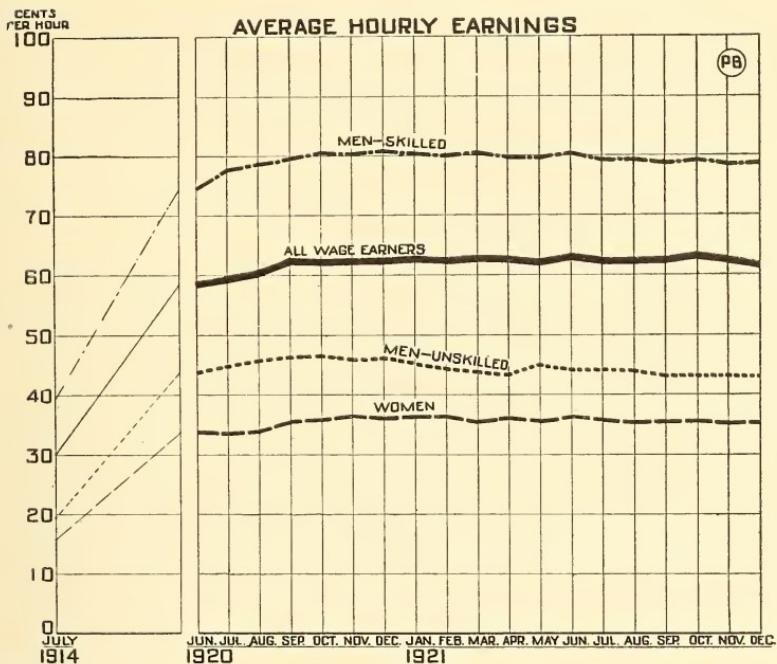
(b) *Weekly earnings:* The average weekly earnings of *all wage earners* in July, 1914, were \$13.82. By October, 1920, they had increased 111% to \$29.22. The decline amounted to 0.7% from the latter period up to January, 1922, at which time the average weekly earnings were \$29.01, a net increase of 110% over July, 1914. The trend shows a gradual increase up to October, 1920. At the beginning of 1921, a decided drop occurred, due to shorter hours of work. During the last three months of 1921 a slight increase occurred, due to the extension of working hours, though there was a slight reduction of hourly earnings. The general high level of hourly and weekly earnings has been practically stabilized during 1920-21.

In July, 1914 the average weekly earnings of *male common labor* were \$9.63. By July, 1920, they had increased 140% to \$23.14. From the latter period up to January, 1922, they declined 9.1% to \$21.04. In July, 1914, the average weekly earnings of *male skilled labor* were \$18.23. To October, 1920, they increased 111% to \$38.50, and declined 3.8% to \$37.05 from the latter period up to the beginning of 1922. In July, 1914, the average weekly earnings of *women* were \$6.73. By December, 1920, they had increased 146% to \$16.57. The decline from this peak up to the beginning of 1922 amounted to 0.2% to \$16.23. A marked increase in weekly earnings for women occurred in December, 1921, due to longer working hours. By 1922, therefore, the weekly earnings for these three groups had increased respectively 118%, 103% and 141% over the July, 1914 levels.

Employment

Total employment in the establishments covered declined 12% from June, 1920 up to January, 1922. The percentages of decline during this period for the three groups were as follows: male common labor, 21.1%; male skilled labor, 6.3%, and

Printing and Publishing—(Book and Job)



(National Industrial Conference Board)

Composite Payroll Data—Book and Job Printing

Period One Week In	Number Wage Earners Employed		Average Hours			Wages (All Wage Earners)			
	1914-22 Establ. (211 plants)	1920-22 Establ. (283 plants)	Av. Per Wage Earner	Av. Hours Plant Operation	Nominal Week	Av. Hrly. Earnings	Av. Wkly. Earnings	Index Nos. Hrly.	Index Nos. Wkly.
<i>1914</i>									
July....	11,061	.....	45.5	48.1	49.7	\$.304	\$13.82	100	100
<i>1920</i>									
June....	13,286	18,179	46.4	49.6	49.1	.582	27.02	191	196
July....	13,296	18,401	47.2	50.1	49.1	.597	28.18	196	204
Aug....	13,428	18,572	46.2	49.1	48.3	.603	27.84	198	201
Sept....	13,215	18,142	46.0	49.6	48.7	.622	28.58	203	207
Oct....	13,210	17,611	47.0	50.4	49.6	.621	29.22	204	211
Nov....	13,155	17,918	46.8	49.0	48.8	.622	29.12	205	211
Dec....	12,985	17,668	46.7	47.9	48.4	.622	29.06	205	210
<i>1921</i>									
Jan....	12,283	17,141	44.6	45.0	46.8	.627	27.97	206	202
Feb....	11,841	16,116	43.7	45.7	48.2	.624	27.28	205	197
March..	11,482	15,478	43.9	46.0	48.5	.629	27.59	207	200
April....	10,945	14,808	43.9	46.3	48.4	.629	27.63	207	200
May....	9,860	13,449	44.3	46.3	47.6	.622	27.51	205	199
June....	10,100	13,850	43.8	47.0	47.8	.631	27.63	208	200
July*....	10,522	14,745	43.5	46.6	47.9	.624	27.19	205	197
Aug....	10,881	15,261	44.7	46.8	47.8	.624	27.90	205	202
Sept....	10,967	15,025	44.5	46.8	47.8	.626	27.88	206	202
Oct....	11,075	15,211	44.8	46.8	47.8	.631	28.28	208	205
Nov....	11,282	15,433	45.6	47.2	47.9	.626	28.59	206	207
Dec....	11,604	16,003	47.1	47.5	47.6	.615	29.01	202	210

*See Introduction, p. 2.

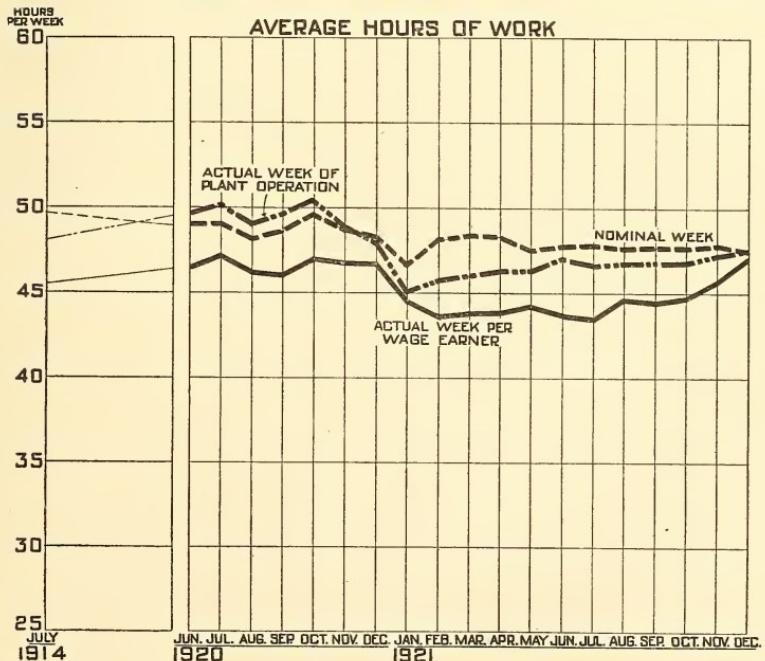
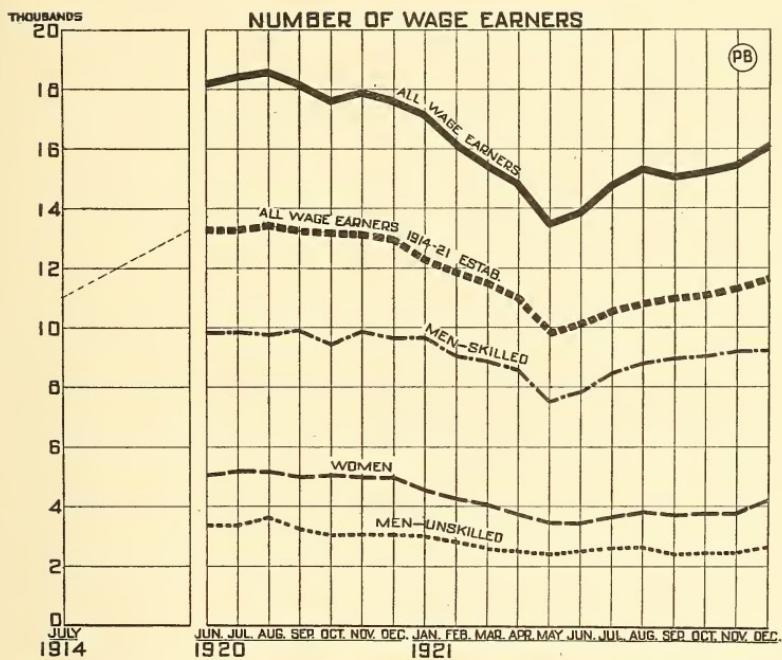
women, 17%. The trough period of employment occurred during May and June, 1921, due to disturbed labor conditions. The last half of 1921 showed a marked increase in employment. Relatively, the printing industry was not so directly affected by the industrial depression as many other basic industries.

Employment in identical establishments between July, 1914, and the end of the year 1921 increased 4.9%.

Hours

In July, 1914, 49.7 hours constituted the *average nominal week*. By June, 1920, the hours had declined to 49.1 hours. The general level of from 48-49 hours was maintained through 1920. In January, 1921, the depression point of 46.8 hours was reached. The last eight months of 1921 witnessed a decline

Printing and Publishing—(Book and Job)



(National Industrial Conference Board)

Classified Payroll Data—Book and Job Printing

PERIOD	MALE UNSKILLED				MALE SKILLED				WOMEN			
	No. One Week In	Av. Actual Hours	Av. Hourly Earnings	Av. Weekly Earnings	Index Nos. Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Av. Weekly Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings
1914	July... 1,954	48.7	\$198	\$9.63	100	6,325	45.8	\$398	\$18.23	100	2,782	42.5
1920	June... 3,344	46.7	.439	20.52	222	213	9,827	47.7	.744	187	195	5,008
	July... 3,361	51.5	.449	23.14	227	240	9,864	47.4	.779	196	203	5,176
	Aug... 3,671	47.8	.457	21.86	231	227	9,741	47.2	.786	197	204	5,160
	Sept... 3,241	47.1	.462	21.74	233	226	9,922	46.7	.798	201	205	4,979
	Oct... 3,087	48.4	.464	22.44	234	234	9,475	48.0	.802	202	211	5,049
	Nov... 3,094	49.0	.458	22.47	231	233	9,826	47.2	.801	201	207	4,998
	Dec... 3,968	48.1	.461	22.17	233	230	9,639	46.7	.807	203	207	4,961
1921	Jan... 3,011	45.3	.451	20.41	228	212	9,624	45.1	.801	201	198	4,506
	Feb... 2,813	45.6	.443	20.20	224	210	9,068	43.8	.800	201	192	4,235
	Mar... 2,621	44.8	.439	19.66	222	204	8,851	44.2	.804	202	195	4,006
	April... 2,516	44.5	.434	19.30	219	200	8,556	44.3	.799	201	194	3,736
	May... 2,418	44.6	.450	20.06	227	208	7,545	44.5	.797	200	194	3,486
	June... 2,535	44.8	.442	19.81	223	206	7,872	44.3	.802	202	195	3,443
	July*	45.0	.442	19.89	223	207	8,463	43.9	.791	199	191	3,668
	Aug... 2,639	46.6	.440	20.48	222	213	8,795	45.2	.792	198	196	3,827
	Sept... 2,406	45.3	.431	19.52	218	203	8,907	44.9	.788	195	194	3,712
	Oct... 2,471	45.5	.431	19.62	218	204	9,004	45.6	.791	199	198	3,736
	Nov... 2,469	47.9	.431	20.65	218	214	9,205	46.1	.785	197	198	3,759
	Dec... 2,639	48.9	.430	21.04	217	218	9,207	47.2	.785	197	203	4,157

to slightly under 48 hours, due chiefly to the introduction of the 48-hour week in many of the larger plants.

The *average hours of plant operation* increased from 48.1 in July, 1914, to 49.6 in June, 1920. This general level of plant activity was maintained through November, 1920. In November and December, and continuing through May, 1921, there was a reduction in the hours of plant activity. In November and December, 1921, there was an increase so that, at the end of 1921, plant hours practically equalled the hours of the nominal week.

The *average actual week per wage earner* showed an increase from 45.5 hours in July, 1914 to 46.4 hours in June, 1920. At the beginning of 1921, there was a decline of over two hours per wage earner and in the succeeding months the average was slightly below the level of 44 hours per week. The last half of 1921, however, showed a continual increase, so that in December, 1921, working hours practically equalled the hours of plant operation.

Conclusion

1. The average *hourly* earnings of all wage earners on January 1, 1922 stood at \$.615 or 102% over the July, 1914 level of \$.304.
2. The average *weekly* earnings of all wage earners on January 1, 1922 stood at \$29.01, or 110% above the 1914 level of \$13.82.
3. A decline, from the peak, of 2.5% in hourly earnings and 0.7% in weekly earnings, reflected a practically static condition of wages during 1920-21 in comparison with other basic industries. The printing industry in general, due to the effect of existing collective agreements, was practically unaffected during the readjustment period.
4. Employment declined 12% from June, 1920, up to January, 1922, showing that the general industrial depression influenced this industry only slightly.
5. The introduction of the 44-hour week in May, 1921, in many plants, and the resultant disturbed labor conditions in the succeeding months, make it difficult to show the real trend of industrial conditions in the printing industry, but in general, the industry was practically unaffected by wage reductions or industrial stagnation.

XVIII

PRINTING AND PUBLISHING

B. Newspapers and Periodicals

The wage investigation in establishments engaged in printing newspapers and periodicals included 86 of the 111 plants which furnished wage information in the last wage investigation. The largest number of wage earners employed in any one month in the 86 establishments was 2,646 in December, 1921. The geographical distribution within 29 states is as follows:

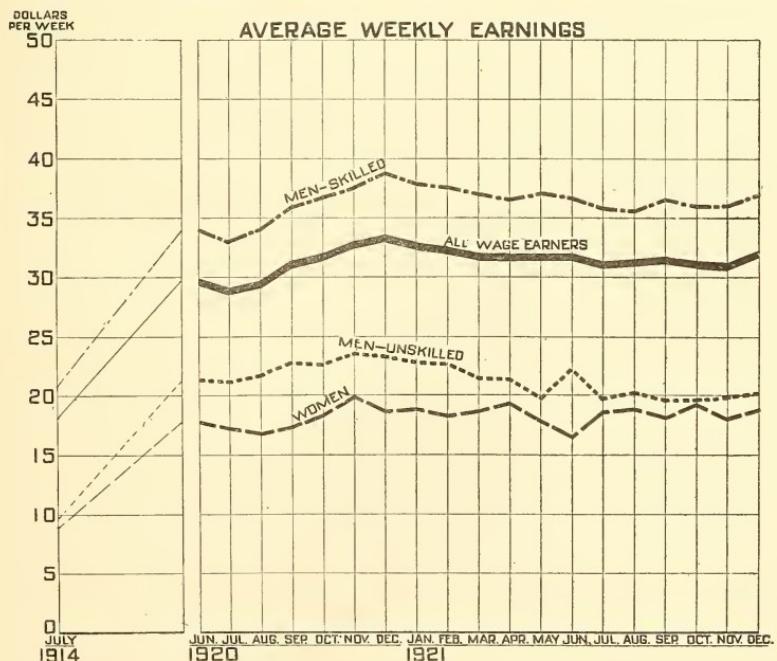
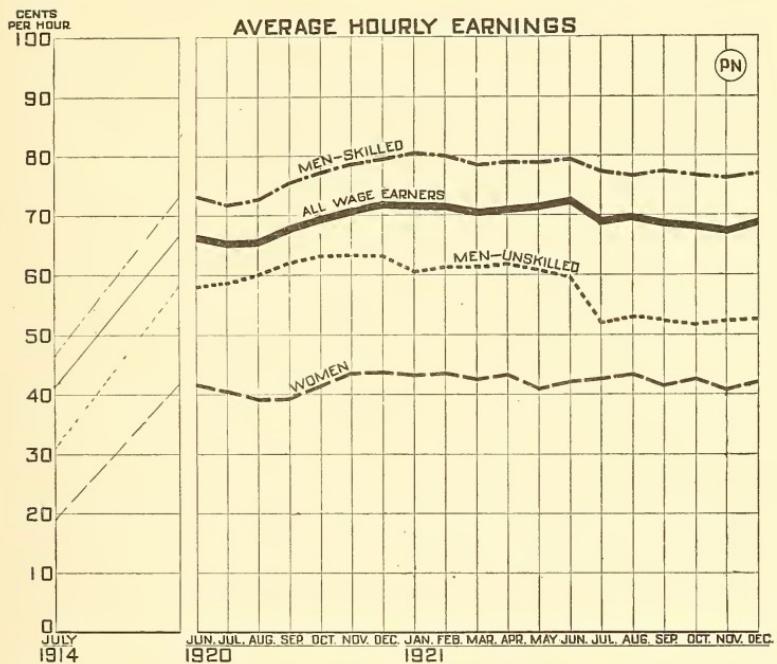
California.....	7	Montana.....	1
Colorado.....	1	Nebraska.....	1
Connecticut.....	1	New Jersey.....	1
Idaho.....	1	New York.....	7
Illinois.....	6	North Dakota.....	1
Indiana.....	1	Ohio.....	6
Iowa.....	8	Oklahoma.....	2
Kansas.....	3	Pennsylvania.....	9
Kentucky.....	1	South Carolina.....	1
Louisiana.....	1	Tennessee.....	1
Massachusetts.....	6	Texas.....	2
Michigan.....	3	Virginia.....	1
Minnesota.....	3	Wisconsin.....	5
Mississippi.....	1	Wyoming.....	1
Missouri.....	4		

Wages

(a) Hourly earnings: In July, 1914, the average hourly earnings of *all wage earners* were \$.415. By June, 1921, they had increased 74% to \$.723. The decline from the latter period up to January, 1922 was 5%, at which time the average hourly earnings were \$.687, an increase of 66% over July, 1914. The trend of hourly earnings was steadily upward to the middle of 1921, followed by only a slight decline in the closing months of 1921.

In July, 1914 the average hourly earnings of *male common labor* were \$.311. By November, 1920, they had increased 103% to \$.632. The decline from the latter period up to January 1922 was 16.8% to \$.526. In July, 1914, the average hourly earnings of *male skilled labor* were \$.468. By January, 1921, they had risen 71% to \$.805 and declined 4.4% to \$.770 from

Printing and Publishing—(Newspapers and Periodicals)



(National Industrial Conference Board)

Composite Payroll Data—Newspaper and Periodical Printing

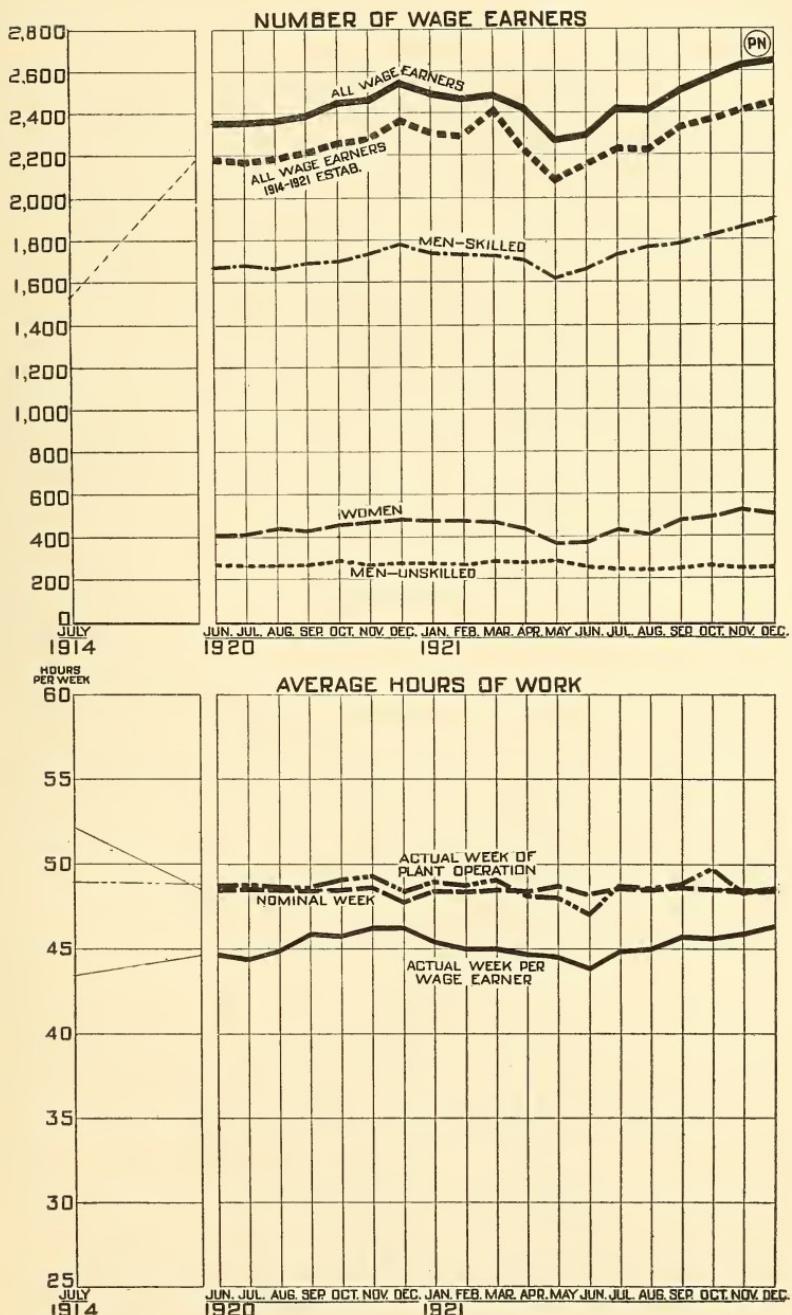
Period One Week In	Number Wage Earners Employed		Average Hours			Wages (All Wage Earners)			
	1914-21 Establ. (73 plants)	Total All Establ. (86 plants)	Av. Week Per Wage Earner	Av. Hours Plant Operation	Nominal Week	Av. Hrly. Earnings	Av. Wkly. Earnings	Index Nos. Earnings	
						Hrly.	Wkly.		
<i>1914</i>									
July....	1,533	.....	43.5	49.0	52.1	\$.415	\$18.05	100	100
<i>1920</i>									
June....	2,186	2,358	44.7	48.8	48.6	.664	29.71	160	164
July....	2,176	2,359	44.4	48.8	48.6	.652	28.94	157	160
Aug....	2,187	2,367	44.9	48.7	48.5	.656	29.46	158	163
Sept....	2,209	2,392	45.8	48.7	48.5	.679	31.10	163	172
Oct....	2,255	2,441	45.7	49.0	48.5	.693	31.67	167	175
Nov....	2,277	2,466	46.2	49.2	48.7	.708	32.74	170	181
Dec....	2,355	2,543	46.2	48.4	48.8	.719	33.22	173	183
<i>1921</i>									
Jan....	2,309	2,491	45.4	48.9	48.4	.718	32.59	173	180
Feb....	2,290	2,473	45.0	48.8	48.4	.717	32.23	172	178
Mar....	2,401	2,482	45.0	49.0	48.5	.705	31.74	169	175
April....	2,226	2,412	44.7	48.0	48.3	.709	31.71	170	175
May....	2,092	2,273	44.5	48.0	48.7	.712	31.73	171	175
June....	2,150	2,295	43.9	47.0	48.2	.723	31.74	174	175
July*....	2,224	2,412	44.9	48.8	48.7	.691	31.06	167	172
Aug....	2,220	2,403	45.0	48.7	48.6	.694	31.20	167	173
Sept....	2,325	2,507	45.7	48.9	48.6	.687	31.44	166	174
Oct....	2,367	2,560	45.6	49.7	48.5	.682	31.13	164	172
Nov....	2,403	2,628	45.9	48.4	48.5	.674	30.94	162	171
Dec....	2,428	2,646	46.4	48.7	48.6	.687	31.90	166	177

*See Introduction, p. 2.

the latter period up to the beginning of 1922. In July, 1914, the average hourly earnings of *women* were \$.191. In December, 1920, they had risen 128% to \$.437. The decline from this peak up to January, 1922, amounted to 3.9%, the average earnings at the beginning of 1922 being \$.420. Up to January, 1922, therefore, the average hourly earnings of these three groups had increased respectively 69%, 65% and 120% over the July, 1914 levels.

(b) *Weekly earnings:* The average weekly earnings of *all wage earners* in July, 1914 were \$18.05. By December, 1921 they had increased 80% to \$33.22. The decline from the latter period up to January, 1922, was 5%, at which time the average weekly earnings were \$31.90, a net increase of 77% over July, 1914. The wage trend shows a gradual rise to the peak at the

Printing and Publishing—(Newspapers and Periodicals)



(National Industrial Conference Board)

beginning of 1921, with only moderate declines at the end of the year. The whole wage situation was practically stationary during 1920-21.

In July, 1914, the average weekly earnings of *male common labor* were \$9.91. By November, 1920, they had increased 137% to \$23.48. From the latter period up to January, 1922 they declined 14.4% to \$20.09. In July, 1914, the average weekly earnings of *male skilled labor* were \$20.86. By February, 1921, they reached \$38.72, an increase of 86%, and then declined 4.9% to \$36.91 from the latter period up to the beginning of 1922. In July, 1914, the average weekly earnings of *women* were \$8.99. In November, 1920, they had increased 122% to \$19.99. The decline from this peak up to January, 1922 amounted to 5.6%, the average wage at the beginning of 1922 being \$18.87. By January, 1922, therefore, the weekly earnings for these groups had increased respectively 103%, 77% and 110% over the July, 1914 levels.

Employment

Total employment in the establishments covered increased 12.2% from January, 1920 to the beginning of 1922. Unemployment in this industry has been relatively unimportant, as it has been little affected by the general industrial depression. The changes in numbers employed in the three groups during the period from June, 1920 to the beginning of 1922 were as follows: Male common labor declined 9.6%, while male skilled labor increased 13%, and women increased 23.5%.

Employment in identical establishments between July, 1914 and the end of the year 1921 increased 58%.

Hours

In July, 1914, 52.1 hours constituted the *average nominal week*. Following the general reduction of working hours during the war period, there was a decline to 48.6 hours in June, 1920. The latter standard has been practically maintained except for a slight decline during June, 1921. This decrease may be accounted for by the introduction of the 44-hour week in some of the plants in the larger cities; but as many of the schedules in this group came from small towns the general effect on present figures is unimportant.

Classified Payroll Data—Newspaper and Periodical Printing

PERIOD	MALE UNSKILLED				MALE SKILLED				WOMEN			
	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings	No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings
				Hourly	Weekly	Hourly	Weekly	Hourly	Hourly	Weekly	Hourly	Hourly
1914 July...	162	31.8	\$311	\$9.91	100	100	1,158	44.6	\$468	\$20.86	100	100
1920 June...	272	36.7	.580	21.29	186	215	1,677	46.5	.731	33.99	156	163
July...	267	36.2	.586	21.19	188	214	1,682	45.9	.718	33.00	153	158
Aug...	266	36.1	.600	21.69	193	229	1,661	46.9	.727	34.05	155	163
Sept...	270	36.5	.620	22.66	199	228	1,695	47.6	.754	35.90	161	172
Oct...	283	35.8	.631	22.57	203	237	1,705	47.7	.771	36.75	165	176
Nov...	269	37.2	.632	23.48	203	234	1,736	47.7	.787	37.56	168	180
Dec...	279	36.7	.631	23.17	203	234	1,782	48.6	.797	38.72	170	186
1921 Jan...	273	37.6	.604	22.71	186	229	1,742	47.2	.805	37.94	171	182
Feb...	267	37.0	.612	22.60	189	228	1,731	47.0	.800	37.56	170	180
Mar...	284	35.0	.612	21.44	189	216	1,730	47.0	.787	36.97	167	177
April...	274	34.6	.617	21.39	190	216	1,703	46.3	.790	36.53	168	175
May...	286	32.5	.609	19.76	188	199	1,616	46.9	.790	37.03	168	178
June...	255	37.0	.598	22.13	185	223	1,681	46.0	.797	36.71	170	176
July*	248	37.8	.521	19.71	168	199	1,736	46.3	.773	35.75	165	171
Aug...	240	37.8	.531	20.09	171	203	1,762	46.2	.769	35.52	164	170
Sept...	248	37.6	.523	19.67	168	198	1,786	47.4	.772	36.58	165	175
Oct...	258	38.0	.517	19.67	166	198	1,813	46.8	.768	35.96	164	172
Nov...	245	38.1	.522	19.88	168	200	1,860	47.3	.761	35.99	163	173
Dec...	246	38.2	.526	20.09	169	203	1,895	47.9	.770	36.91	165	177

The *average hours of plant operation* in July, 1914, were 49.0. In June, 1920, they were 48.8, and the general level of 49 hours to 50 hours was maintained up to April, 1921. April and May showed a decline in hours of plant activity because of labor disturbances and were followed by a return to more normal conditions in the last months of 1921.

The *average actual week per wage earner* showed an increase from 43.5 hours in July, 1914 to 44.7 hours in June, 1920. The general trend of working hours closely followed plant activity. The lower levels of May and June, 1921 were brought about by labor disturbances, and the decline in working hours during and following this period, had a direct effect upon weekly earnings.

Conclusion

The study of wages and hours in newspaper printing plants shows that:

1. Average *hourly* earnings of all wage earners on January 1, 1922, stood at \$.687, or 66% above the July, 1914 level of \$.415.
2. Average *weekly* earnings of all wage earners on January 1, 1922, stood at \$31.90, or 77% above the July, 1914 level of \$18.05.
3. The decline from the peak in both hourly and weekly earnings has been very slight, wages remaining practically at war levels. The net increases at the close of 1921, however, were smaller than those found in many manufacturing industries.
4. An increase of 12.2% in employment from June, 1920 to the beginning of 1922 showed that the industry had been little affected by the industrial depression.
5. The effect of close organization in maintaining high wage levels during a time of depression is shown in this industry.

XIX

LUMBER MANUFACTURING AND MILLWORK

The wage investigation covered establishments, exclusive of sawmills, engaged in the manufacture of dressed lumber, sashes, doors and blinds, and general interior and exterior wood-work and trim. Returns were received from 249 plants, 242 of which furnished information for the last wage investigation. Statistics covering women were not compiled, as the number of female wage earners employed in this industry is negligible. The largest number of wage earners employed in any one month was 11,285 in July, 1920. Thus, over 11% of the wage earners reported by the 1919 Census of Manufactures as employed in lumber planing mills are covered in this report. While the number of establishments included in this report is small in comparison with the whole industry, the percentage of wage earners covered and the distribution and size of establishments may be considered representative of the industry. The geographical distribution within 37 states and the District of Columbia is as follows:

Arkansas.....	2	Montana.....	3
California.....	12	Nebraska.....	4
Colorado.....	5	New Hampshire.....	5
Connecticut.....	5	New Jersey.....	7
District of Columbia.....	1	New York.....	19
Florida.....	4	North Dakota.....	1
Georgia.....	1	Ohio.....	29
Illinois.....	12	Oklahoma.....	1
Indiana.....	9	Oregon.....	5
Iowa.....	7	Pennsylvania.....	25
Kansas.....	2	Rhode Island.....	2
Kentucky.....	4	South Dakota.....	1
Louisiana.....	2	Tennessee.....	5
Maine.....	4	Texas.....	4
Maryland.....	2	Utah.....	1
Massachusetts.....	10	Vermont.....	3
Michigan.....	14	Virginia.....	4
Minnesota.....	6	Washington.....	3
Missouri.....	4	Wisconsin.....	21

Wages

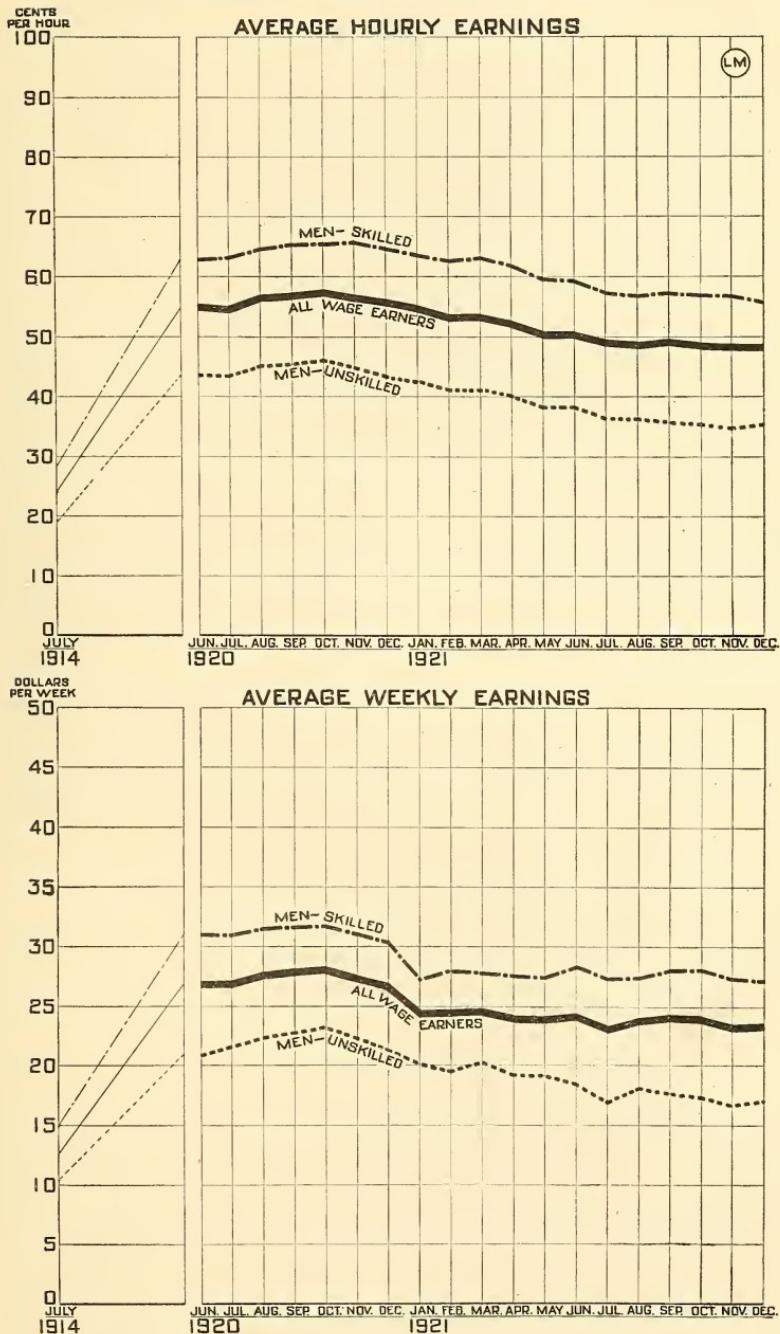
(a) *Hourly earnings:* In July, 1914, the average hourly earnings of *all wage earners* were \$.240. By October, 1920, they had increased 138% to \$.572. The decline from the latter period up to January, 1922 amounted to 15.7%, at which time the average hourly earnings were \$.482, an increase of 101% over July, 1914. The general high level of hourly earnings was maintained through 1920. The decline during 1921 was moderate and gradual throughout the entire year.

In July, 1914, the average hourly earnings of *male common labor* were \$.192, and by October, 1920 they had increased 140% to \$.461. They declined 23% to \$.355 from the latter period up to the beginning of 1922. In July, 1914, the average hourly earnings of *male skilled labor* were \$.285. By November, 1920, they had increased 131% to \$.658. The decline from this peak up to the beginning of 1922 was 15%, at which time the average hourly earnings were \$.559. By January, 1922, therefore, the hourly earnings for these two groups had increased respectively, 85% and 96% over the July, 1914 levels.

(b) *Weekly earnings:* In July, 1914, the average hourly earnings of male common labor were \$12.77. By October, 1920, they had risen 120% to \$28.13. The decline from this period up to the beginning of 1922 amounted to 17.1%, the average weekly earnings being \$23.32 at the latter period, a net increase of 83% over July, 1914. The general high level of weekly earnings was maintained through 1920. Beginning in January, 1921, there was a considerable decline, due to reductions in both working hours and hourly rates. The year 1921 was marked by a more or less stationary level of weekly earnings, due to the fact that working hours increased in proportion as hourly earnings declined.

For specific groups, the study shows that in July, 1914, the average weekly earnings of *male common labor* were \$10.34. By October, 1920, they had increased 125% to \$23.22. The decline from this period to the beginning of 1922 was 26.7% to \$17.02. In July, 1914, the average weekly earnings of *male skilled labor* were \$15.00. By October, 1920, they had increased 111% to \$31.63. From the latter period to January, 1922, they declined 14% to \$27.19. By January, 1922, therefore, the

Lumber Manufacturing and Millwork



(National Industrial Conference Board)

Composite Payroll Data—Lumber Manufacturing and Millwork

Period	Number Wage Earners Employed		Average Hours			Wages (All Wage Earners)				
	1914-22 One Week In	1920-22 Establ. (176 plants)	Av. Week Per Wage Earner	Av. Hours Plant Operation	Nominal Week	Av. Hrly. Earnings	Av. Wkly. Earnings	Index Nos. Earnings	Hrly.	Wkly.
<i>1914</i>										
July....	8,743	.....	53.2	59.7	57.0	\$.240	\$12.77	100	100	
<i>1920</i>										
June....	8,179	10,373	48.6	52.8	53.0	.550	26.77	229	210	
July....	8,975	11,285	49.2	53.2	53.5	.546	26.88	227	210	
Aug....	8,956	11,226	48.9	53.1	53.2	.563	27.51	235	215	
Sept....	8,521	10,750	49.0	52.5	53.0	.569	27.90	237	218	
Oct....	8,142	10,298	49.1	52.1	53.0	.572	28.13	238	220	
Nov....	7,687	9,835	48.3	51.7	53.2	.566	27.31	236	214	
Dec....	7,297	9,369	47.8	49.3	52.6	.557	26.62	232	208	
<i>1921</i>										
Jan....	6,431	8,175	44.3	46.2	52.5	.547	24.24	228	190	
Feb....	6,705	8,471	45.9	48.9	52.9	.531	24.39	221	191	
March..	6,617	8,435	46.2	48.9	52.9	.532	24.55	222	192	
April....	7,029	8,799	46.1	48.6	52.8	.522	24.07	217	188	
May....	6,844	8,675	47.6	48.7	52.6	.503	23.96	210	188	
June....	6,442	8,366	47.9	49.4	52.6	.504	24.16	210	189	
July*....	7,471	9,454	47.1	50.2	52.4	.491	23.11	205	181	
Aug....	7,164	9,080	48.8	50.3	52.1	.489	23.83	204	187	
Sept....	7,078	9,034	49.0	50.0	51.5	.491	24.09	205	189	
Oct....	6,889	9,053	49.2	51.0	52.0	.487	23.96	203	188	
Nov....	6,752	8,926	48.0	49.9	51.8	.484	23.25	202	182	
Dec....	6,758	8,924	48.4	49.5	51.7	.482	23.32	201	183	

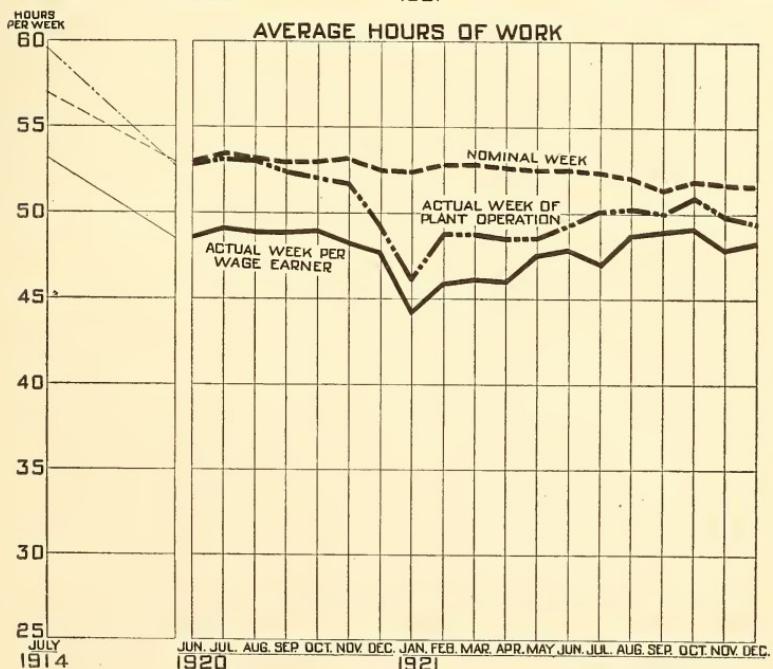
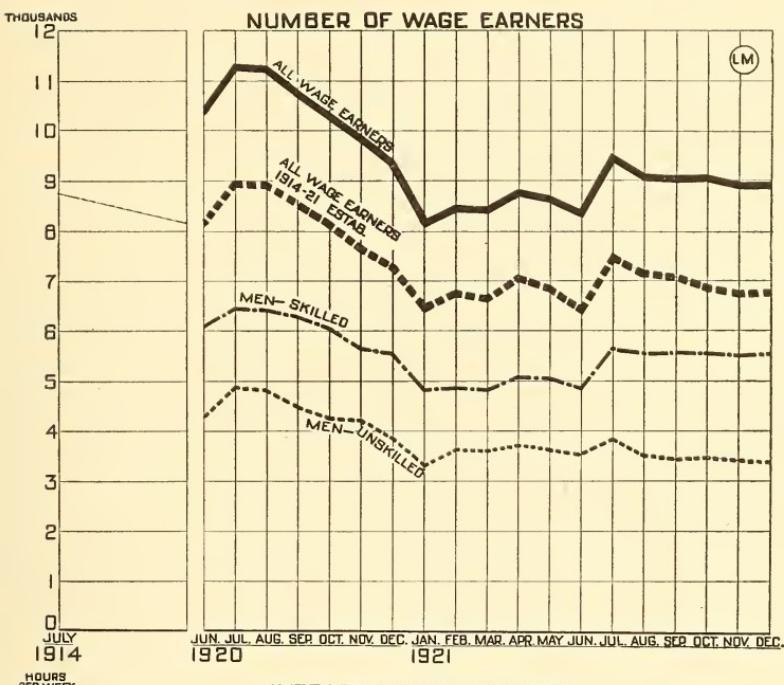
*See Introduction, p. 2.

weekly earnings of these two groups had increased respectively 65% and 81% over the July, 1914 levels.

Employment

Total employment declined 14% from June, 1920 up to January, 1922. The percentages of decline for the two groups during this period were, male common labor, 20.9%; male skilled labor, 9.1%. Relatively speaking, the slight decline in employment shows that lumber planing mills were relatively less affected by the industrial depression than many other basic industries.

Lumber Manufacturing and Millwork



(National Industrial Conference Board)

Further, the industry did not expand greatly between July, 1914, and the middle of 1920, so that the decrease was not so large as might have been expected had the industry been affected by war demands.

Employment in identical establishments declined 22.7% between July, 1914 and January, 1922.

Hours

In July, 1914, 57 hours constituted the *average nominal week*. It will be noted that at this time the average hours of plant operation were higher than the hours of the nominal week. In June, 1920, the nominal week had declined to 53 hours. The level of more than 53 hours was maintained through November, 1920. In December, however, there was a decline to 52.6 hours. A general level of from $51\frac{1}{2}$ to $52\frac{1}{2}$ hours was maintained up to January, 1922.

The *average hours of plant operation* declined from 59.7 hours in July, 1914 to 52.8 hours in June, 1920. Plant activity was well sustained through November, 1920, followed by declines in December and January, 1921. The remaining months of 1921, however, show a generally sustained level of plant activity.

The *average actual week per wage earner* declined from 53.2 hours to 48.6 hours in June, 1920. The general level of working hours was maintained through November, 1920. Declines occurred during the next three months, but the last six months of 1921 showed well sustained working hours.

Conclusion

The study of wages and hours in lumber and planing mills shows that:

1. Average *hourly earnings* of all wage earners on January 1, 1922 stood at \$.482, or 101% above the July, 1914 level of \$.240.
2. Average *weekly earnings* of all wage earners on January 1, 1922 stood at \$23.32, or 83% above the July, 1914 level of \$12.77.
3. The declines from the peak, of 15.7% in hourly earnings and 17.1% in weekly earnings, were considerably smaller than those found in many other basic industries. This is explainable

Classified Payroll Data—Lumber Manufacturing and Millwork

PERIOD	MALE UNSKILLED				MALE SKILLED				Index Numbers Hourly	Index Numbers Weekly
	One Week In	Average Actual Hours	Average Hourly Earnings	Average Weekly Earnings	Index Numbers Hourly	Index Numbers Weekly	Average Actual Hours	Average Hourly Earnings		
<i>1914</i>	4,179	53.9	\$.192	\$10.34	100	100	4,564	52.6	\$.285	\$15.00
<i>1920</i>										
June	4,290	47.8	.436	20.85	227	202	6,083	49.2	.629	30.95
July	4,873	49.5	.436	21.56	227	209	6,412	49.0	.631	30.92
Aug.	4,829	49.3	.451	22.25	235	215	6,397	48.6	.648	31.49
Sept.	4,472	49.9	.455	22.72	237	220	6,278	48.4	.653	31.59
Oct.	4,278	50.4	.461	23.22	240	225	6,016	48.3	.655	31.63
Nov.	4,214	49.7	.449	22.34	234	216	5,621	47.1	.658	31.04
Dec.	3,863	49.0	.436	21.36	227	207	5,506	47.0	.645	30.32
<i>1921</i>										
Jan.	3,306	47.1	.427	20.12	222	195	4,819	42.9	.636	27.32
Feb.	3,623	47.4	.412	19.56	215	189	4,848	44.8	.625	28.00
March.	3,612	48.9	.413	20.17	215	195	4,823	44.1	.631	27.83
April.	3,732	48.9	.401	19.26	209	186	5,067	44.7	.618	27.61
May.	3,638	49.9	.384	19.15	200	185	5,037	46.0	.596	27.43
June.	3,518	48.1	.386	18.53	201	179	4,848	47.8	.591	28.24
July*.	3,840	46.2	.366	16.91	191	164	5,614	47.7	.573	27.35
Aug.	3,519	49.7	.364	18.09	190	175	5,561	48.1	.570	27.46
Sept.	3,436	49.4	.358	17.70	186	171	5,598	48.8	.574	28.01
Oct.	3,472	48.9	.354	17.32	184	168	5,581	49.3	.570	28.09
Nov.	3,404	48.0	.347	16.65	181	161	5,522	48.0	.569	27.33
Dec.	3,394	47.9	.355	17.02	185	165	5,530	48.7	.559	27.19

by the fact that wages during the general height of prosperity in 1920 increased less than in many other basic industries.

4. Total employment declined 14% from June, 1920 up to January, 1922, showing that the industry was only slightly affected by the general industrial depression. The last six months of 1921 showed a more or less stationary condition of employment, working hours and wages.

XX

FURNITURE MANUFACTURING

The wage investigation in this industry included establishments manufacturing wooden and upholstered furniture and also a few plants engaged in cabinet work. Returns were received from 132 plants, of which all but one furnished information for the last wage investigation. The largest number of wage earners employed in any one month was 16,165 in June, 1920. Thus, over 10% of the wage earners reported by the 1919 Census of Manufactures for the furniture industry are covered in this report. The majority of returns come from the largest centers of furniture manufacturing. The geographical distribution within 26 states is as follows:

California.....	3	New Jersey.....	2
Connecticut.....	4	New York.....	17
Georgia.....	1	North Carolina.....	1
Illinois.....	6	Ohio.....	13
Indiana.....	13	Oregon.....	2
Kentucky.....	4	Pennsylvania.....	16
Maine.....	1	South Carolina.....	1
Maryland.....	2	Tennessee.....	1
Massachusetts.....	9	Texas.....	2
Michigan.....	17	Vermont.....	2
Minnesota.....	3	Virginia.....	1
Missouri.....	4	West Virginia.....	1
Montana.....	1	Wisconsin.....	5

Wages

(a) Hourly earnings: In July, 1914, the average hourly earnings of *all wage earners* were \$.228. By December, 1920, they had increased 153% to \$.576. The decline was 18.6% from the latter period up to January, 1922, when the average hourly earnings were \$.469, an increase of 106% over July, 1914. The decline in hourly earnings was gradual throughout the period covered by the investigation.

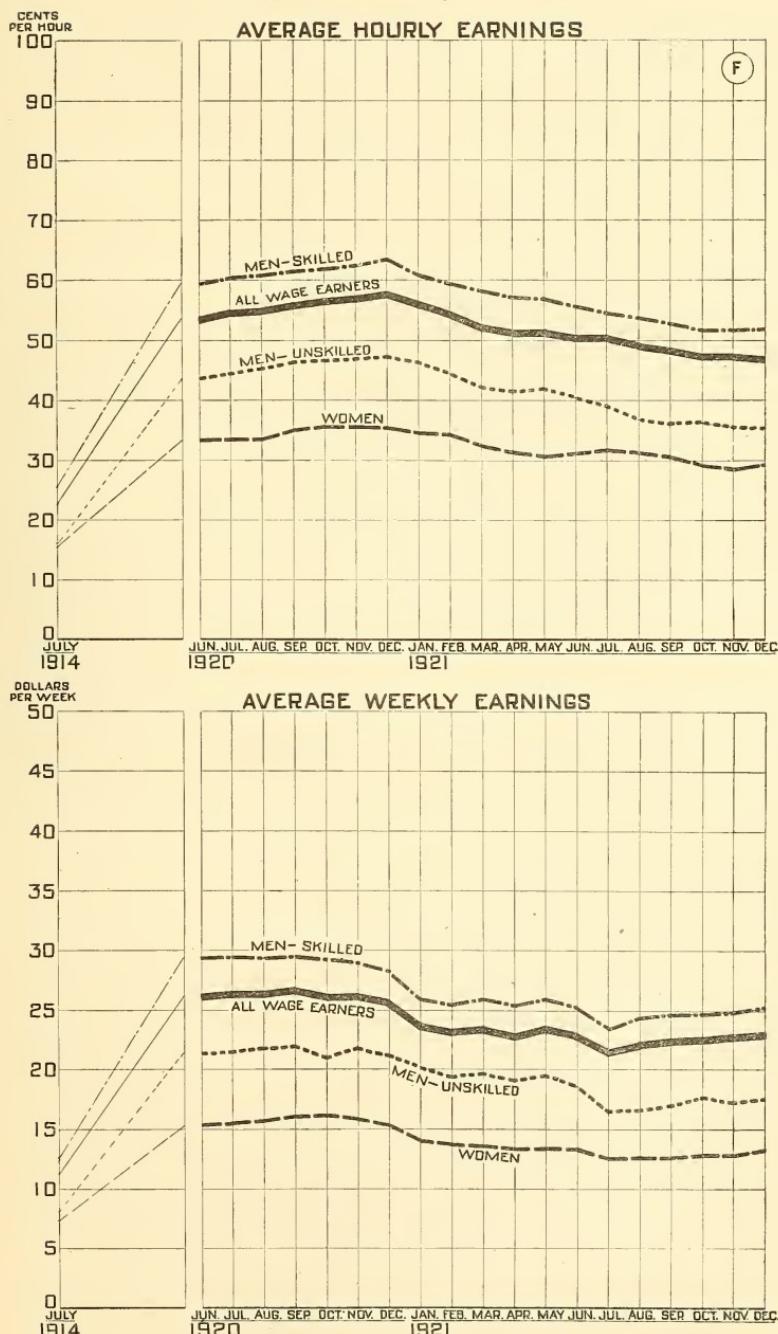
The study shows that in July, 1914, the average hourly earnings of *male unskilled labor* were \$.162. By December,

1920, they had increased 193% to \$.474. The decline from the latter period up to January, 1922 was 25.5% to \$.353. In July, 1914, the average hourly earnings of *male skilled labor* were \$.256. By December, 1920, they had risen 147% to \$.633. A decline of 18.3% to \$.517 took place from the latter period up to the beginning of 1922. In July, 1914, the average hourly earnings of *women* were \$.155. By November, 1920, they had increased 130% to \$.356. The decline from this peak up to January, 1922 amounted to 17.7%, the average earnings at the latter period being \$.293. By January, 1922, therefore, the average hourly earnings of these three groups had increased respectively 118%, 102% and 89% over the July, 1914 levels.

(b) Weekly earnings: The average weekly earnings of *all wage earners* in July, 1914 were \$11.23. By September, 1920, they had increased 137% to \$26.65. The decline from the latter period up to January, 1922 amounted to 14.3%, leaving the average weekly earnings at \$22.83, a net increase of 103% over July, 1914. The general high level of weekly earnings was maintained through 1920. Beginning in January, 1921, there was a severe decline, while the remainder of the year showed more moderate reductions. Weekly earnings were well maintained, due to an increase in working hours, though hourly rates declined steadily.

The average weekly earnings of *male common labor* were \$8.08. By September, 1920, they had increased 171% to \$21.91. From the latter period up to January, 1922, they declined 19.7% to \$17.59. In July, 1914, the average weekly earnings of *male skilled labor* were \$12.62. By September, 1920, they had increased 134% to \$29.56, and declined 14.9% to \$25.15 from the latter period up to the beginning of 1922. In July, 1914, the average weekly earnings of *women* were \$7.29. By October, 1920, they had increased 122% to \$16.22. The decline from this peak up to January, 1922 amounted to 18.2%, the average wage in the beginning of 1922 being \$13.27. By January, 1922, therefore, the weekly earnings for these three groups increased respectively 118%, 99% and 82% over the July, 1914 levels.

Furniture Manufacturing



(National Industrial Conference Board)

Composite Payroll Data—Furniture Manufacturing

Period	Number Wage Earners Employed		Average Hours			Wages (All Wage Earners)			
	1914-22 Establ. (98 plants)	1920-22 Establ. (132 plants)	Av. Week Per Wage Earner	Av. Hours Plant Operation	Nominal Week	Av. Hrly. Earnings	Av. Wkly. Earnings	Index Nos. Earnings	
One Week In								Hrly.	Wkly.
<i>1914</i>									
July....	11,001	.....	49.3	51.5	55.1	\$.228	\$11.23	100	100
<i>1920</i>									
June....	11,440	16,165	49.0	51.0	51.5	.534	26.17	234	233
July....	11,338	15,966	48.4	50.9	51.4	.544	26.33	239	234
Aug....	11,349	16,091	48.1	50.3	51.4	.549	26.39	241	235
Sept....	11,098	15,636	47.9	50.2	51.3	.557	26.65	244	237
Oct....	10,737	14,936	46.5	48.4	50.9	.563	26.16	247	233
Nov....	10,336	14,141	46.0	47.6	50.3	.568	26.15	249	233
Dec....	9,629	13,106	44.5	46.4	50.4	.576	25.62	253	228
<i>1921</i>									
Jan....	8,661	11,374	42.6	44.8	50.7	.557	23.71	244	211
Feb....	8,526	11,537	42.7	45.2	51.3	.541	23.08	237	206
March..	8,752	12,016	44.9	46.0	51.1	.520	23.35	228	208
April...	8,865	12,177	44.7	46.4	51.0	.510	22.78	224	203
May....	8,519	12,235	45.6	47.7	51.1	.512	23.31	225	208
June....	8,899	12,253	45.3	47.1	50.9	.502	22.75	220	203
July*...	7,952	10,941	42.7	43.8	50.9	.502	21.45	220	191
Aug....	8,365	11,552	45.0	46.8	50.5	.491	22.10	215	197
Sept....	8,921	12,342	46.3	47.2	51.1	.484	22.40	212	199
Oct....	9,576	13,240	48.0	49.0	51.1	.471	22.59	207	201
Nov....	9,736	13,702	48.1	49.6	51.3	.471	22.65	207	202
Dec....	9,963	13,660	48.6	49.2	51.1	.469	22.83	206	203

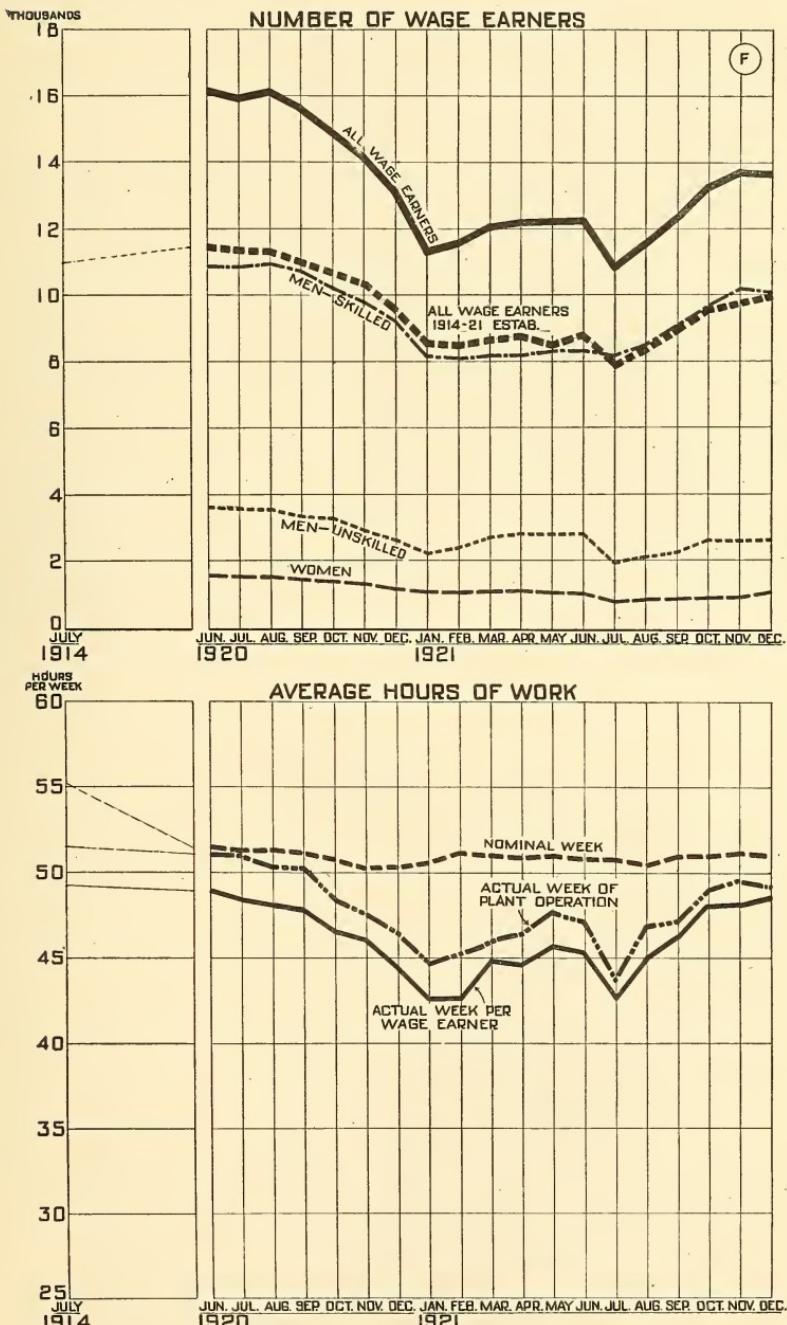
*See Introduction, p. 2.

Employment

Total employment in the establishments covered declined 15.5% from June, 1920 up to the beginning of 1922. The percentages of decline for these three groups were: male common labor, 28.1%; male skilled labor, 8.2%; women, 36.7%. The decline in employment was steady up to January, 1921. Since that time, there have been fluctuations in employment with a tendency toward a gradual increase of working forces. A large number of women have evidently returned from industrial to domestic and other occupations.

Employment in identical establishments between July, 1914 and the end of the year 1921 declined 9.4%.

Furniture Manufacturing



(National Industrial Conference Board)

Hours

In July, 1914, 55.1 hours constituted the *average nominal week*. By June, 1920, the hours had declined to 51.5 and the general level of from 50.3 hours to slightly more than 51 hours was maintained up to January, 1922.

The *average hours of plant operation* declined from 51.5 in July, 1914 to 51 hours in June, 1920. The effect of the industrial depression began to be felt at the close of 1920 and the beginning of 1921. The trough period was reached in July, 1921, when plant hours declined to 43.8 hours. The last months of 1921 saw an approach to more normal conditions, the average hours of plant activity rising to 49.2 hours in December, 1921.

The *average actual week per wage earner* showed a decline from 49.3 hours in July, 1914 to 49 in June, 1920. The direct effect of the industrial depression began to be felt at the beginning of 1921, the average working hours in February and again in July falling to 42.7. The last six months of 1921, however, witnessed a marked increase in the resumption of working hours. This increase in working hours helped materially to maintain weekly earnings on a more or less stationary level.

Conclusion

The study of wages and hours in the furniture industry shows that:

1. The average *hourly* earnings of all wage earners on January 1, 1922, stood at \$.469 or 106% above the July, 1914 level of \$.228.
2. Average *weekly* earnings of all wage earners stood at \$22.83 or 103% above the July, 1914 level of \$11.23.
3. The decline from the peak, of 14.3% in weekly earnings, was somewhat less than in many basic industries, due to the fact that, though hourly earnings steadily declined, there was a steady increase of working hours.
4. Employment declined 15.5% from June, 1920 up to the beginning of 1922, showing that the furniture industry was not

Classified Payroll Data—Furniture Manufacturing

PERIOD	MALE UNSKILLED						MALE SKILLED						WOMEN					
	No. Wage Earners In	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings		No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings		No. Wage Earners	Av. Actual Hours	Av. Hourly Earnings	Index Nos. Earnings		Hourly	Weekly	
				Hourly	Weekly				Hourly	Weekly				Hourly	Weekly	Hourly	Weekly	
1914 July ..	2,543	49.8	\$162	\$8.08	100	100	7,752	49.3	\$256	\$12.62	100	100	706	47.0	\$155	\$7.29	100	100
1920 June ..	3,621	49.0	.436	21.33	269	264	10,951	49.5	.594	29.36	232	233	1,593	45.9	.332	15.26	214	209
July ..	3,548	48.4	.444	21.47	274	266	10,905	48.7	.604	29.41	236	233	1,513	46.4	.335	15.52	216	213
Aug ..	3,557	48.2	.452	21.81	279	270	11,005	48.2	.609	29.36	238	233	1,529	46.8	.335	15.67	216	215
Sept. ..	3,369	47.3	.463	21.91	286	271	10,808	48.3	.612	29.56	239	234	1,459	45.8	.350	16.04	226	220
Oct. ..	3,306	44.7	.467	20.90	288	259	10,220	47.2	.619	29.23	242	232	1,410	45.7	.355	16.22	229	222
Nov. ..	2,954	46.3	.470	21.80	290	270	9,859	46.1	.625	28.83	244	228	1,328	44.6	.356	15.87	230	218
Dec. ..	2,654	44.8	.474	21.20	293	262	9,261	44.5	.633	28.21	247	224	1,191	43.3	.354	15.34	228	210
1921 Jan. ..	2,192	43.4	.463	20.07	286	248	8,105	42.6	.609	25.98	238	206	1,077	40.6	.346	14.07	223	193
Feb. ..	2,414	43.6	.445	19.43	275	240	8,054	42.7	.595	25.41	232	201	1,069	40.3	.341	13.74	220	188
Mar. ..	2,726	46.6	.421	19.63	260	243	8,153	44.7	.581	25.94	227	206	1,137	42.1	.324	13.67	209	188
April ..	2,844	45.8	.415	19.00	256	235	8,208	44.6	.571	25.38	223	201	1,125	42.4	.314	13.31	203	183
May ..	2,817	46.6	.420	19.56	259	242	8,314	45.5	.570	25.90	223	205	1,104	43.7	.308	13.47	199	185
June ..	2,823	46.1	.404	18.63	249	231	8,399	45.3	.558	25.28	218	200	1,031	43.1	.311	13.38	201	184
July *	1,950	42.2	.392	16.53	242	205	8,144	43.1	.546	23.54	213	187	847	39.6	.319	12.62	206	173
Aug. ..	2,089	45.0	.369	16.59	228	205	8,558	45.5	.537	24.45	210	194	905	40.5	.312	12.61	201	173
Sept. ..	2,255	46.7	.364	17.01	225	211	9,121	46.7	.529	24.77	207	196	966	41.6	.304	12.64	196	173
Oct. ..	2,524	48.9	.363	17.79	224	220	9,722	48.2	.516	24.83	202	197	994	44.1	.292	12.87	188	177
Nov. ..	2,571	49.0	.353	17.31	218	214	10,161	48.2	.518	24.95	202	198	970	44.6	.285	12.71	184	174
Dec. ..	2,603	49.8	.353	17.59	218	218	10,049	48.7	.517	25.15	202	199	1,008	45.4	.293	13.27	189	182

so directly affected by the industrial depression as were many other basic industries.

5. The depression period was reached during the winter of 1920-1921. The year 1921 was marked by wage fluctuations, though there was a steady trend toward recovery during the closing months of the year.

XXI

BRICK AND TILE MANUFACTURING

Wage data for this industry were obtained from establishments engaged in the manufacture of brick, tile and fire-clay products. Returns were received from 119 plants, 117 of which furnished information for the last wage investigation. The largest number of wage earners employed in any one month in the 119 establishments was 6,085 in June, 1920. Statistics covering women have not been compiled, as the number of women employed in the industry is negligible. While the number of establishments and wage earners covered in this report is small in comparison with the whole industry, the size and type of establishments covered are representative. The geographical distribution within 30 states is as follows:

Arkansas.....	2	Montana.....	2
California.....	6	Nebraska.....	1
Colorado.....	2	New Hampshire.....	1
Connecticut.....	2	New Jersey.....	2
Delaware.....	1	New Mexico.....	1
Illinois.....	11	New York.....	5
Indiana.....	6	Ohio.....	22
Iowa.....	15	Pennsylvania.....	12
Kansas.....	2	South Dakota.....	1
Kentucky.....	3	Texas.....	2
Maryland.....	1	Vermont.....	1
Massachusetts.....	5	Washington.....	1
Michigan.....	4	West Virginia.....	1
Minnesota.....	2	Wisconsin.....	2
Missouri.....	2	Wyoming.....	1

In many places the distinction between common and unskilled and semi-skilled or skilled groups is vague, many plants considering their entire force as common labor, except a few skilled overseers; others designate the whole group as skilled. The work performed by both groups is, however, essentially the same. This vagueness of occupational classification makes the compilation of exact wage data difficult.

The seasonal fluctuations during early spring and winter months which characterize this industry are clearly shown by this report.

Wages

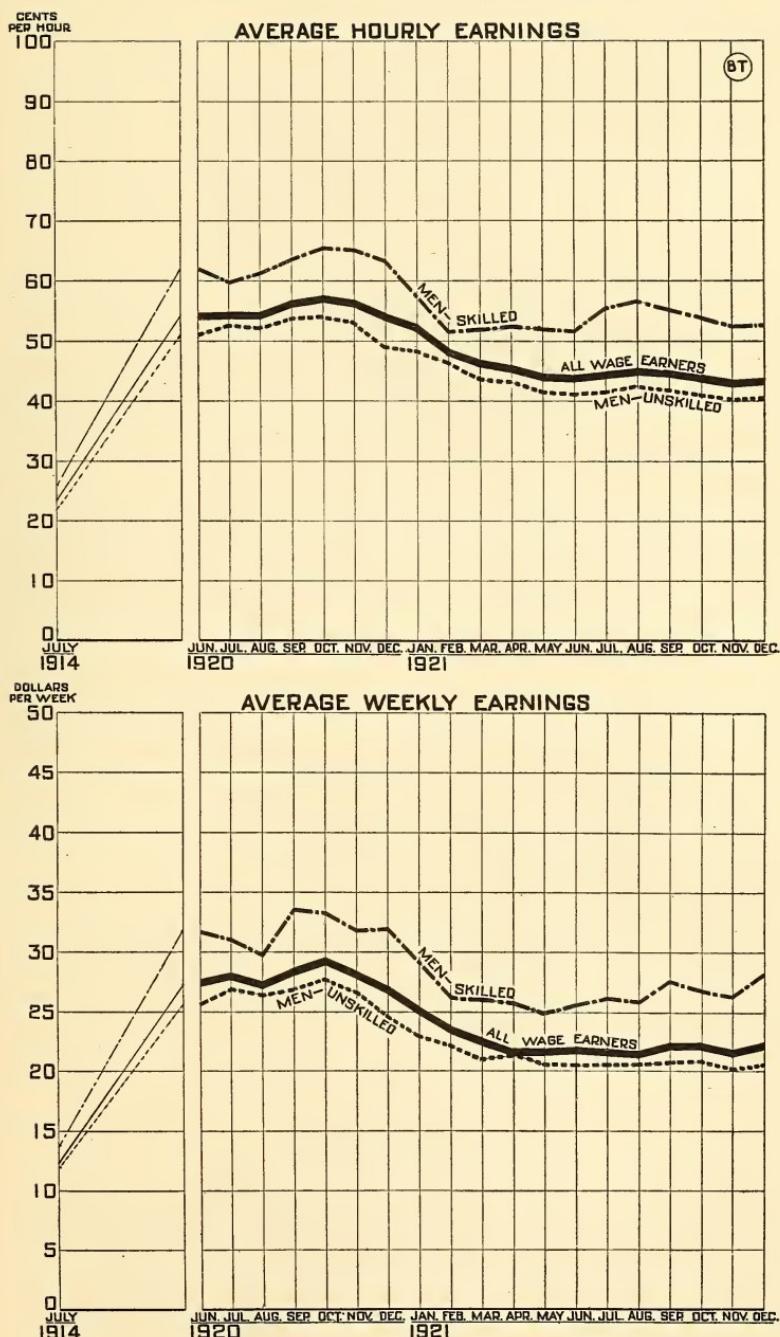
(a) *Hourly earnings:* In July, 1914, the average hourly earnings of *all wage earners* were \$.233. By October, 1920, they had increased 145% to \$.571. A decline of 24.3% took place from the latter period up to January, 1922, at which time the average hourly earnings were \$.432, an increase of 85% over July, 1914. Hourly earnings declined gradually from the peak throughout the entire period covered by the investigation. The sharpest reduction in any one month occurred in January, 1921, when wages dropped 2.7 cents per hour.

In July, 1914, the average hourly earnings of *male common labor* were \$.221. By October, 1920, they had increased 145% to \$.541. The decline from the latter period up to January, 1922, was 25.3% to \$.404. In July, 1914, the average hourly earnings of *male skilled labor* were \$.271. By October, 1920, they had increased 142% to \$.655. The decline from the latter period up to the beginning of 1922 was 19.7% to \$.526. By January, 1922, therefore, the average hourly earnings of these two groups had increased respectively 83% and 94% over the July, 1914 levels.

(b) *Weekly earnings:* The average weekly earnings of *all wage earners* in July, 1914 were \$12.42. By October, 1920, they had increased 135% to \$29.20. The decline from the latter period up to January, 1922 was 23.9%, leaving the average weekly earnings at that time \$22.22, a net increase of 79% over July, 1914. Weekly earnings declined gradually from the peak through August, 1921. Beginning in September and continuing to the end of the year there was a slight increase due to longer working hours. Seasonal fluctuations and the general stagnation of building trades unquestionably influenced the trends of both hourly and weekly earnings. It is difficult to ascertain which of these factors had more effect on wage trends.

In July, 1914 the average weekly earnings of *male common labor* were \$11.93. By October, 1920, they had increased 133% to \$27.76. From the latter period up to January, 1922, they declined 25.9%, leaving the average weekly earnings at \$20.56, an increase of 72% over July, 1914. In July, 1914, the average weekly earnings of *male skilled labor* were \$13.86. By September, 1920, they had increased 142% to \$33.51, then declining

Brick and Tile Manufacturing



(National Industrial Conference Board)

Composite Payroll Data--Brick and Tile Manufacturing

Period	Number Wage Earners Employed		Average Hours			Wages (All Wage Earners)				
	1914-22 Establ. (85 plants)	1920-22 Establ. (119 plants)	Av. Week Per Wage Earner	Av. Hours Plant Oper- ation	Nomi- nal Week	Av. Hrly. Earn- ings	Av. Wkly. Earn- ings	Index Nos. Earnings	Hrly.	Wkly.
<i>1914</i>										
July....	5,397	.....	53.3	55.1	56.8	\$.233	\$12.42	100	100	
<i>1920</i>										
June....	4,869	6,085	50.7	53.7	54.5	.539	27.31	231	220	
July....	5,142	6,084	51.3	53.0	54.9	.544	27.92	233	225	
Aug....	4,955	6,154	50.1	52.2	53.7	.543	27.25	233	219	
Sept....	4,713	5,914	50.2	51.8	53.9	.565	28.38	242	229	
Oct....	4,283	5,292	51.1	51.6	54.1	.571	29.20	245	235	
Nov....	3,875	4,747	49.9	50.1	53.7	.564	28.16	242	227	
Dec....	3,304	3,961	49.8	49.6	54.2	.541	26.96	232	217	
<i>1921</i>										
Jan....	2,601	3,043	48.8	47.5	54.4	.514	25.12	221	202	
Feb....	2,590	3,024	48.9	47.0	54.3	.481	23.51	206	189	
March..	2,918	3,401	48.7	48.3	53.9	.463	22.57	199	182	
April....	3,875	4,346	49.5	50.2	54.4	.454	22.44	195	181	
May....	3,819	4,599	49.2	49.0	53.5	.441	21.68	189	175	
June....	3,684	4,435	49.8	49.9	53.5	.438	21.78	188	175	
July*....	3,233	4,163	48.9	50.7	54.4	.442	21.58	190	174	
Aug....	3,161	4,143	48.0	49.4	54.4	.448	21.51	192	173	
Sept....	3,259	4,261	49.7	49.0	54.1	.445	22.08	191	178	
Oct....	3,446	4,409	50.7	48.9	54.3	.437	22.13	188	178	
Nov....	3,460	4,417	50.1	50.5	54.2	.429	21.51	184	173	
Dec....	3,215	4,030	51.4	50.1	54.2	.432	22.22	185	179	

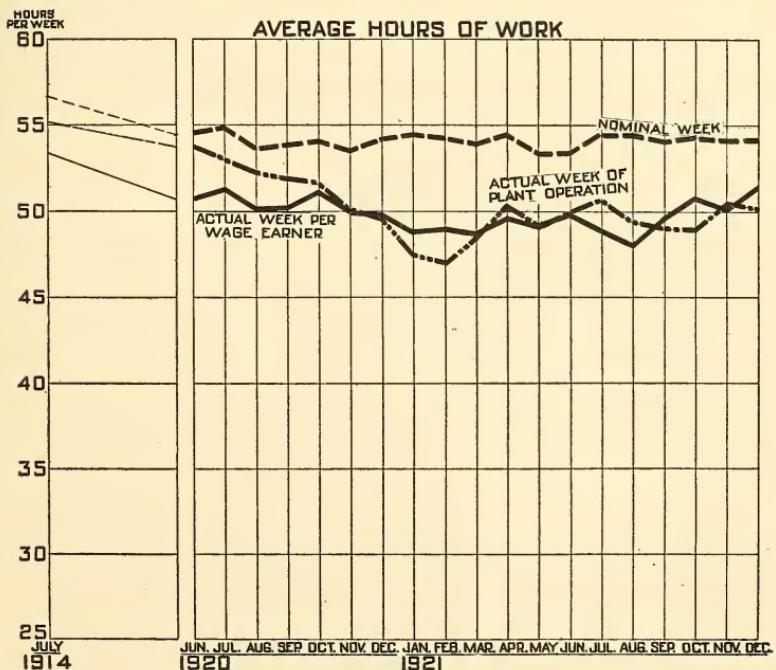
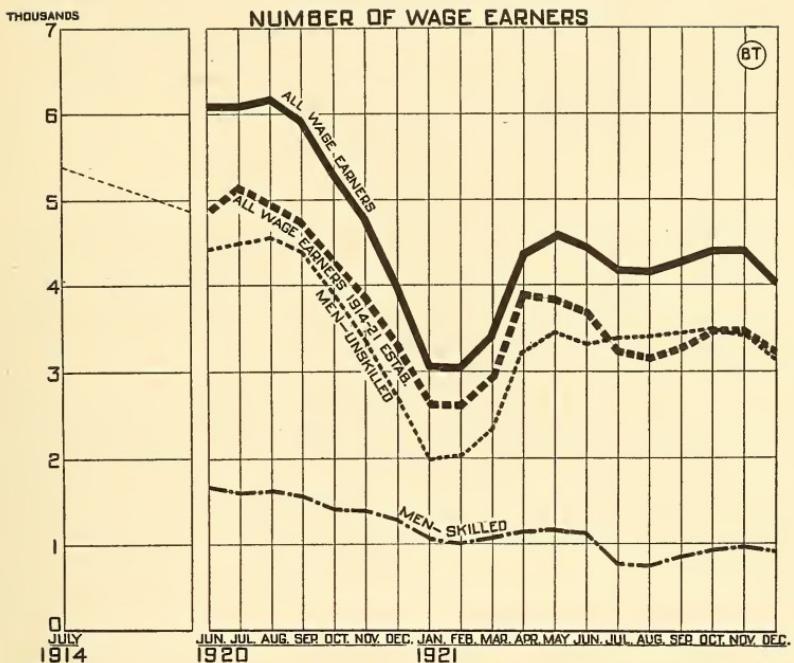
*See Introduction, p. 2.

15.8% to \$28.21 from the latter period up to the beginning of 1922. By January, 1922, therefore, the weekly earnings for these two groups had increased respectively 72% and 104% over the July, 1914 levels.

Employment

Total employment in the establishments covered declined 33.8% from June, 1920 up to the beginning of January, 1922. The percentages of decline for the two groups during this period were as follows: male common labor, 29%; male skilled labor, 46.4%. The irregularity of employment was caused

Brick and Tile Manufacturing



(National Industrial Conference Board)

by seasonal fluctuations, and by the general depression in building trades, curtailing the demand for brick and tile products.

Employment in identical establishments between July, 1914 and the end of the year 1921 decreased 40.4%.

Hours

In July, 1914, 56.8 hours constituted the *average nominal week*. In June, 1920, there was a drop to 54.5 hours per week, and the general level of approximately 53.5–54.5 hours was maintained until the end of 1921.

The *average hours of plant operation* decreased from 55.1 hours in July, 1914 to 53.7 hours in June, 1920. Plant activity was generally well sustained during 1920 and 1921. A depression period occurred in the opening months of 1921, but the last half of that year witnessed an approach to more normal conditions.

The *average actual week* per wage earner showed a decline from 53.3 hours in July, 1914 to 50.7 hours in June, 1920. The general trend of working hours closely followed plant activity, a depression period occurring in the early months of 1921 and a revival in the closing months of the year.

Conclusion

The study of wages and hours in brick and tile manufacturing shows that:

1. Average *hourly* earnings of all wage earners on January 1, 1922 stood at \$.432, or 85% above the July, 1914 level of \$.233.
2. Average *weekly* earnings of all wage earners on January 1, 1922 stood at \$22.22, or 79% above the July, 1914 level of \$12.42.
3. The decline from the peak of hourly and weekly earnings was rapid, due particularly to the stagnation in building operations, in municipal construction and railroad maintenance.
4. Employment declined 33.8% from June, 1920 to January, 1922, as a result of the economic depression. Employment

Classified Payroll Data—Brick and Tile Manufacturing

PERIOD	MALE UNSKILLED				MALE SKILLED			
	Number Wage Earners	Average Actual Hours	Average Hourly Earnings	Index Numbers Earnings	Number Wage Earners	Average Actual Hours	Average Hourly Earnings	Index Numbers Earnings
1914	4,035	54.0	\$.221	\$11.93	100	1,362	\$.271	\$13.86
1920					100	51.2	100	100
June.....	4,404	50.4	.509	25.65	230	215	1,681	51.3
July.....	4,486	51.2	.525	26.85	238	225	1,598	51.8
Aug.....	4,541	50.7	.520	26.35	235	221	1,613	48.6
Sept.....	4,376	49.4	.538	26.58	243	223	1,538	52.6
Oct.....	3,890	51.3	.541	27.76	245	233	1,402	50.7
Nov.....	3,358	50.2	.530	26.63	240	223	1,389	49.0
Dec.....	2,693	49.5	.498	24.64	225	207	1,268	50.4
1921								
Jan.....	1,996	47.8	.482	22.99	218	193	1,047	50.9
Feb.....	2,015	47.9	.463	22.19	210	186	1,009	50.9
March....	2,326	48.1	.437	20.99	198	176	1,075	50.2
April....	3,212	49.6	.430	21.29	195	178	1,134	49.2
May.....	3,441	49.6	.415	20.59	188	173	1,158	48.0
June.....	3,308	49.9	.411	20.51	186	172	1,127	49.3
July*	3,387	49.2	.417	20.53	189	172	776	47.1
Aug.....	3,408	48.5	.424	20.56	192	172	735	45.7
Sept.....	3,424	49.6	.418	20.74	189	174	837	49.8
Oct.....	3,484	50.9	.410	20.89	186	175	925	49.7
Nov.....	3,444	50.1	.402	20.15	182	169	973	50.1
Dec.....	3,129	50.8	.404	20.56	183	172	901	53.6

declined over 40% between July, 1914 and the end of 1921, due not only to the economic depression but to the absence of war stimulation.

5. The general situation in the industry were marked by complete plant shutdowns rather than by part-time operation.

XXII

GENERATION AND DISTRIBUTION OF ELECTRICITY

Wage data for this industry were received from establishments engaged in the generation and distribution of electricity. Returns were received from 212 plants, 210 of which furnished information for the last wage investigation. The largest number employed in any one month in the 212 establishments was 15,632 in December, 1920. Thus over 22% of all wage earners listed in the 1917 Census of Central Electric Light and Power Stations are covered in this report. The geographical distribution within 34 states is as follows:

Arizona.....	6	Montana.....	15
California.....	21	Nebraska.....	2
Colorado.....	4	New Hampshire.....	1
Connecticut.....	6	New Jersey.....	2
Florida.....	1	New York.....	19
Georgia.....	5	North Dakota.....	1
Illinois.....	22	Ohio.....	10
Indiana.....	9	Oregon.....	2
Iowa.....	8	Pennsylvania.....	24
Kansas.....	4	Rhode Island.....	1
Kentucky.....	1	South Carolina.....	2
Maine.....	1	South Dakota.....	2
Maryland.....	1	Texas.....	3
Massachusetts.....	17	Utah.....	2
Michigan.....	6	West Virginia.....	6
Minnesota.....	3	Wisconsin.....	1
Missouri.....	1	Wyoming.....	3

As there is continuous operation in electric plants the emphasis in this wage report is placed on weekly earnings. The great majority of employees are either on a monthly or a weekly basis, although a small percentage of common labor is paid on an hourly basis. Fluctuations in the composite figures for both hourly and weekly earnings are due in general to the common labor group.

Wages

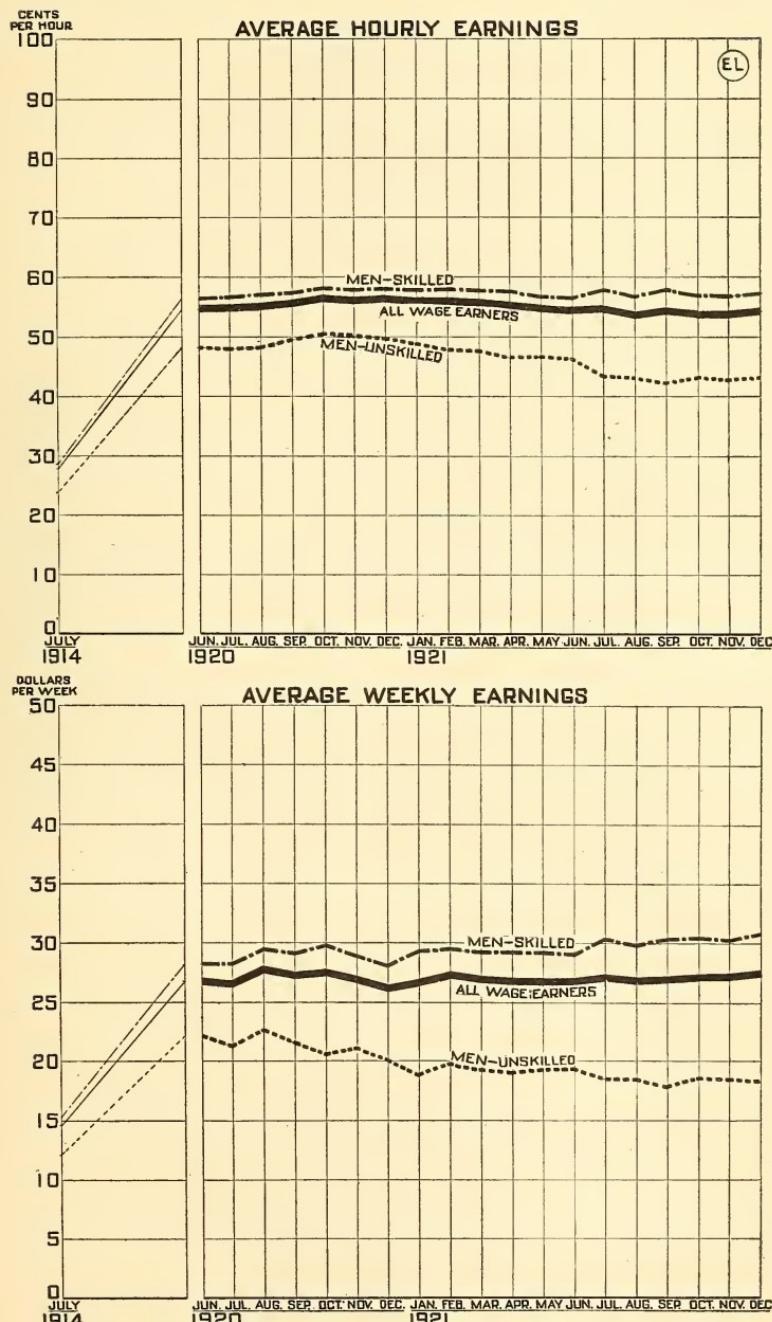
(a) *Hourly earnings:* In July, 1914, the average hourly earnings of *all wage earners* were \$.278. By October, 1920, they had increased 104% to \$.566. The decline from the latter period up to January, 1922 was 3.9%, leaving average hourly earnings at \$.544, an increase of 96% over July, 1914. The trend of hourly earnings shows only a very gradual decline from the peak.

In July, 1914 the average hourly earnings of *male common labor* were \$.238. By October, 1920, they had increased 112% to \$.505. The decline from the latter period up to January, 1922, was 14.5% to \$.432. In July, 1914, average hourly earnings of *male skilled labor* were \$.287. In October, 1920 and December, 1921 they had increased 103% to \$.582. The decline from this period up to January, 1922 was 1.4% to \$.574. The trend remained practically stationary throughout the period covered by the investigation. By January, 1922, therefore, the average hourly earnings of these two groups had increased respectively 82% and 100% over the July, 1914 levels.

(b) *Weekly earnings:* The average weekly earnings of *all wage earners* in July, 1914 were \$14.68. By August, 1920, they had increased 89% to \$27.80. The decline was 0.9% from the latter period up to January, 1922, at which time the average weekly earnings were \$27.54, a net increase of 88% over July, 1914. The general level of weekly earnings remained practically horizontal throughout the period covered by the investigation.

In July, 1914 the average weekly earnings of *male common labor* were \$12.10. By August, 1920, they had increased 87% to \$22.57. From the latter period up to January, 1922 they declined 19.1% to \$18.26. In July, 1914, the average weekly earnings of *male skilled labor* were \$15.32. The peak was reached in the last month covered by the investigation, December, 1921, when they had increased 100% to \$30.67. The general level of from \$29 to \$30 remained practically stationary throughout the entire period covered by the investigation. By January, 1922, therefore, the weekly earnings for these two groups had increased respectively 51% and 100% over the July, 1914 levels.

Generation and Distribution of Electricity



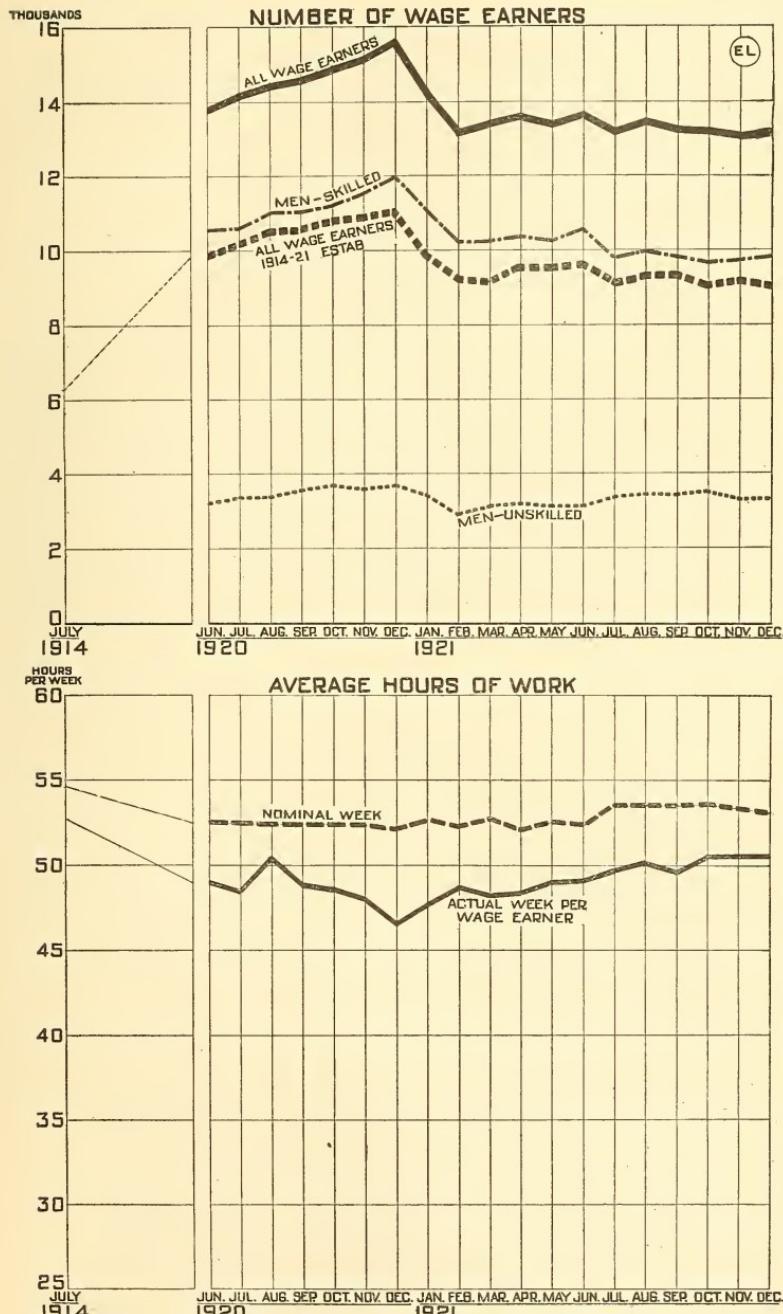
(National Industrial Conference Board)

Composite Payroll Data—Generation and Distribution of Electricity

Period One Week In	Number Wage Earners Employed		Average Hours		Wages (All Wage Earners)			
	1914-22 Establ. (138 plants)	1920-22 Establ. (212 plants)	Av. Week Per Wage Earner	Nomi- nal Week	Av. Hrly. Earn- ings	Av. Wkly. Earn- ings	Index Nos. Earnings	
						Hrly.	Wkly.	
<i>1914</i>								
July.....	6,282	.....	52.8	54.6	\$.278	\$14.68	100	100
<i>1920</i>								
June.....	9,827	13,758	49.1	52.7	.545	26.75	196	182
July.....	10,177	14,161	48.5	52.6	.548	26.58	197	181
Aug.....	10,539	14,424	50.4	52.5	.552	27.80	199	189
Sept.....	10,558	14,590	49.0	52.5	.557	27.31	200	186
Oct.....	10,798	14,895	48.6	52.5	.566	27.49	204	187
Nov.....	10,882	15,151	48.1	52.5	.563	27.06	203	184
Dec.....	11,086	15,632	46.6	52.2	.564	26.28	203	179
<i>1921</i>								
Jan.....	9,883	14,217	47.7	52.8	.560	26.75	201	182
Feb.....	9,200	13,151	48.7	52.4	.561	27.30	202	186
March.....	9,167	13,353	48.2	52.8	.558	26.92	201	183
April.....	9,534	13,548	48.4	52.2	.553	26.76	199	182
May.....	9,565	13,352	49.0	52.6	.548	26.82	197	183
June.....	9,643	13,659	49.1	52.5	.546	26.83	196	183
July*.....	9,140	13,156	49.7	53.6	.548	27.23	197	185
Aug.....	9,315	13,424	50.1	53.6	.538	26.98	194	184
Sept.....	9,330	13,204	49.7	53.6	.545	27.09	196	185
Oct.....	9,096	13,186	50.5	53.7	.539	27.22	194	185
Nov.....	9,151	13,033	50.5	53.5	.539	27.25	194	186
Dec.....	9,091	13,150	50.6	53.2	.544	27.54	196	188

*See Introduction, p. 2.

Generation and Distribution of Electricity



(National Industrial Conference Board)

Employment

Total employment in the establishments covered declined 4.4% from June, 1920 up to the beginning of January, 1922. During this period the employment of male common labor increased 3.1% while that of male skilled labor declined 6.7%. It is presumed that there has been some shifting of employees from the skilled labor group to the common labor group.

Employment in identical establishments between July, 1914 and the end of the year 1921 increased 44.7%.

Hours

In July, 1914, 54.6 hours constituted the *average nominal week*. By June, 1920, the hours had declined to 52.7, and the general level of from 52.5 to 53.5 hours was maintained up to July, 1921. The last six months of 1921 witnessed an increase to slightly more than 53.5 hours.

The *average actual week per wage earner* showed a decline from 52.8 hours in July, 1914, to 49.1 hours in June, 1920. The fluctuations in working hours were due principally to the varying time worked by the common labor group.

Conclusion

The study of wages and hours in electric light and power plants shows that:

1. Average *hourly* earnings of all wage earners on January 1, 1922, stood at \$.544 or 96% above the July, 1914 level of \$.278.
2. Average *weekly* earnings of all wage earners on January 1, 1922, stood at \$27.54 or 88% above the July, 1914 level of \$14.68.
3. The percentages of decline from the peak (3.9% in hourly earnings and 0.9% in weekly earnings) were far below those in manufacturing industries.
4. Employment in electric light and power plants has been little affected by the general depression. From June, 1920 up to the beginning of January, 1922, employment had declined 4.4%, but the total expansion of employment in the industry between July, 1914 and the end of 1921 amounted to approximately 45%.

Classified Payroll Data—Generation and Distribution of Electricity

PERIOD	MALE UNSKILLED				MALE SKILLED				Index Numbers Earnings	
	Number Wage Earners	Average Actual Hours	Average Hourly Earnings	Average Weekly Earnings	Index Numbers Earnings		Average Hourly Earnings	Average Weekly Earnings		
					Hourly	Weekly				
1914	1,242	50.8	\$.238	\$12.10	100	100	5,040	53.3	\$15.32	
1920								\$.287	100	
July.....	3,211	45.9	.482	22.12	203	183	10,547	50.0	.563	
June.....	3,353	44.3	.478	21.18	201	175	10,808	49.8	.567	
July.....	3,407	46.8	.482	22.57	203	187	11,017	51.5	.571	
Aug.....	3,562	43.6	.495	21.56	208	178	11,028	50.8	.574	
Sept.....	3,701	40.7	.505	20.54	212	170	11,194	51.2	.582	
Oct.....	3,618	41.8	.502	20.99	211	173	11,533	50.0	.579	
Nov.....	3,680	40.3	.498	20.06	209	166	11,952	48.6	.581	
Dec.....								28.20	202	
1921										
Jan.....	3,444	38.5	.488	18.81	205	155	10,773	50.7	.578	
Feb.....	2,919	41.3	.478	19.75	201	163	10,232	50.8	.580	
March...	3,098	40.5	.475	19.25	200	159	10,255	50.5	.578	
April....	3,187	40.5	.467	18.92	196	156	10,361	50.8	.575	
May.....	3,112	41.0	.467	19.15	196	158	10,240	51.4	.567	
June.....	3,129	41.5	.464	19.25	195	159	10,530	51.4	.566	
July*	3,365	42.7	.433	18.48	182	153	9,791	52.2	.579	
Aug.....	3,448	42.9	.430	18.41	181	152	9,976	52.7	.568	
Sept....	3,397	42.2	.422	17.84	177	147	9,807	52.3	.579	
Oct.....	3,507	42.9	.430	18.45	181	152	9,679	53.3	.570	
Nov.....	3,307	43.1	.427	18.40	179	152	9,726	53.1	.570	
Dec.....	3,311	42.3	.432	18.26	182	151	9,839	53.4	.574	
								30.67	200	

5. The general wage situation in electric light plants was little affected by the economic depression. Owing to continuous operation and consequent maintenance of production, working force and hours, there can be little comparison made between employment and wage conditions in electric light plants and those of manufacturing establishments.

XXIII

MANUFACTURE AND DISTRIBUTION OF GAS

The wage investigation in this industry covered establishments engaged in the manufacture and distribution of gas. Returns were received from 61 plants, 50 of which supplied material for the last investigation. The largest number of wage earners employed in any one month in the 61 establishments was 7,336 in October, 1921. Over 16% of the wage earners listed in the 1919 Census of Manufactures as then employed in this industry were covered in this investigation. The geographical distribution within 24 states is as follows:

California.....	2	Nebraska.....	1
Colorado.....	1	New Jersey.....	2
Connecticut.....	3	New York.....	9
Georgia.....	1	Ohio.....	2
Illinois.....	2	Pennsylvania.....	6
Indiana.....	1	Rhode Island.....	1
Kentucky.....	1	South Carolina.....	1
Maryland.....	2	South Dakota.....	1
Massachusetts.....	8	Vermont.....	3
Michigan.....	5	Virginia.....	1
Montana.....	1	Washington.....	1
Minnesota.....	2	Wisconsin.....	4

The chief importance of a wage inquiry among public utilities, which operate continuously, is to ascertain the trend of weekly earnings. Hourly earnings are of little interest, due to the fact that there is continuous operation in gas plants and that most of the employees are paid either on a monthly or weekly basis. There is a good proportion, however, of common labor paid on an hourly basis and it is this group that is responsible for most of the variations in the trend of composite earnings. The chief value of this study is to compare the general levels of wages in 1914 and 1920-1922.

Wages

(a) *Hourly earnings:* In July, 1914, the average hourly earnings of all wage earners were \$.270. By September, 1920,

they had risen 116% to \$.584. They declined 11.3% from the latter period up to January, 1922, at which time the average hourly earnings were \$.518, an increase of 92% over July, 1914. The decline in hourly earnings was gradual throughout the last half of 1920 and the year 1921.

In July, 1914 the average hourly earnings of *male common labor* were \$.208. In November, 1920 they had increased 160% over July, 1914, to \$.541. From November, 1920 up to January, 1922, they declined 15.3% to \$.458. In July, 1914 the average hourly earnings of *male skilled labor* were \$.318. By September, 1920, they had increased 193% to \$.613, declining 9.8% to \$.553 from the latter period up to the beginning of 1922. By January, 1922, therefore, the average hourly earnings for the two groups had increased respectively 120% and 74% over the July, 1914 levels.

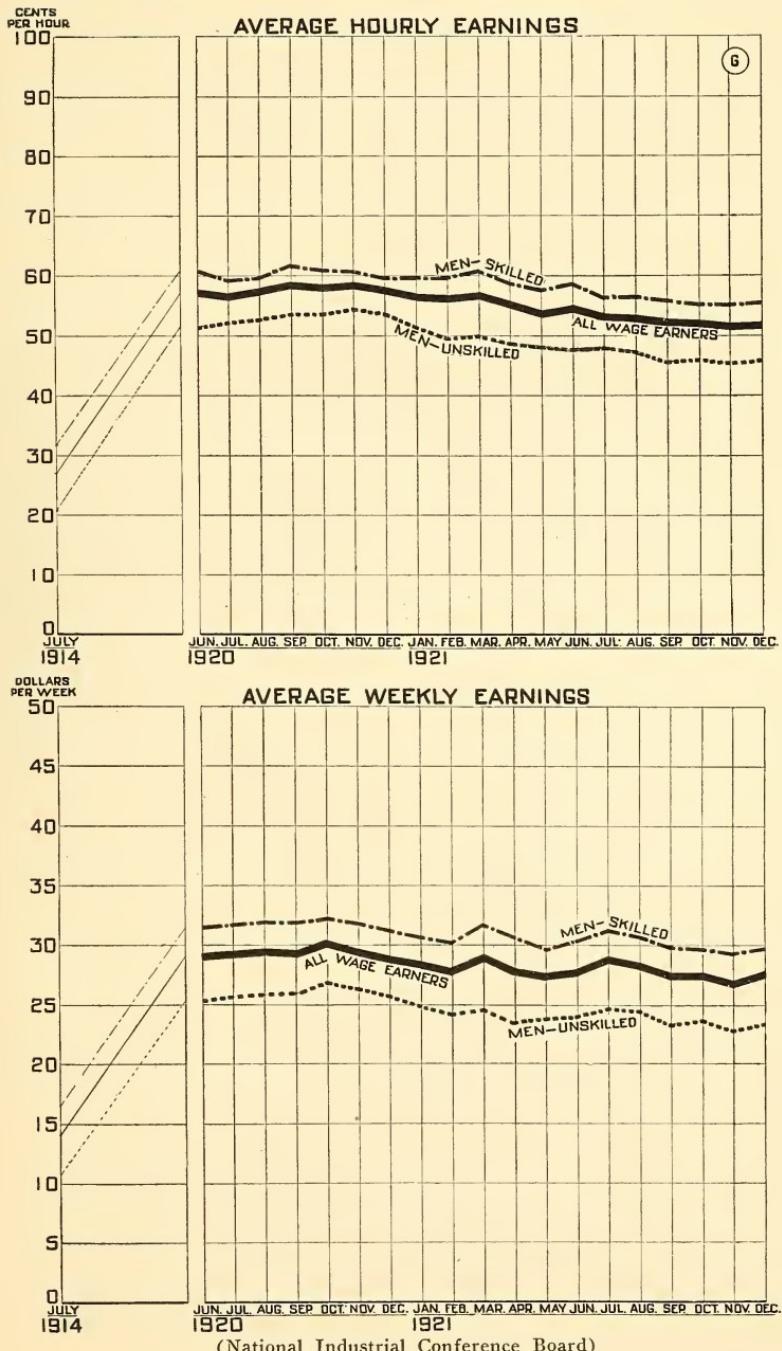
(b) *Weekly earnings:* The average weekly earnings of *all wage earners* in July, 1914 were \$14.01. By October, 1920, they had increased 114% to \$30.02. The decline was 9% from the latter period up to January, 1922, at which time the average weekly earnings were \$27.31, a net increase of 95% over July, 1914. The decrease in wages was slight and far smaller than that in most manufacturing industries.

In July, 1914 the average weekly earnings of *male common labor* were \$10.77. By October, 1920, they had increased 148% to \$26.76. From the latter period up to January, 1922 they declined 12.5% to \$23.41. In July, 1914, average weekly earnings of *male skilled labor* were \$16.58. By October, 1920, they had increased 94% to \$32.21. The decline from the latter period up to the beginning of 1922 was 7.6%, to \$29.76. By January, 1922 the average weekly earnings for the two groups had increased respectively 117% and 79% over the July, 1914 levels.

Employment

Total employment in establishments covered increased approximately 9.5% from June, 1920 up to January, 1922. The increase in employment of male common labor during this period amounted to 4.1% and in that of male skilled labor 13.1%.

Manufacture and Distribution of Gas



(National Industrial Conference Board)

Composite Payroll Data—Manufacture and Distribution of Gas

Period One Week In	Number Wage Earners Employed		Average Hours			Wages (All Wage Earners)			
	1914-22 Estab. (54 plants)	1920-22 Estab. (61 plants)	Av. Week Per Wage Earner	Av. Hours Plant Operation	Nominal Week	Av. Hrly. Earnings	Av. Wkly. Earnings	Index Nos. Earnings	
<i>1914</i>									
July....	6,495	.....	52.0	....	55.6	\$.270	\$14.01	100	100
<i>1920</i>									
June....	6,369	6,517	50.9	....	52.6	.570	29.01	211	207
July....	6,505	6,653	51.8	....	52.5	.565	29.27	209	209
Aug....	6,509	6,667	51.5	....	52.3	.573	29.51	212	211
Sept....	6,635	6,784	50.3	....	52.3	.584	29.37	216	210
Oct....	6,962	7,104	51.8	....	52.2	.580	30.02	215	214
Nov....	7,016	7,162	50.8	....	52.1	.583	29.59	216	211
Dec....	7,000	7,140	50.5	....	52.1	.574	28.98	213	206
<i>1921</i>									
Jan....	6,959	7,081	50.3	....	52.2	.565	28.43	209	203
Feb....	6,857	6,975	49.7	....	52.2	.561	27.93	208	199
March..	6,732	6,899	51.0	....	52.5	.568	28.98	210	207
April...	6,845	6,974	50.5	....	52.5	.551	27.85	204	199
May...	6,646	6,777	50.9	....	52.6	.537	27.33	199	195
June...	6,497	6,618	50.9	....	52.9	.545	27.73	202	198
July*...	6,813	6,935	54.0	....	51.9	.532	28.73	197	205
Aug....	6,715	6,855	53.6	....	51.4	.529	28.33	196	202
Sept....	6,878	6,985	52.6	....	51.4	.521	27.39	193	196
Oct....	7,093	7,336	52.9	....	50.7	.520	27.49	193	196
Nov....	7,084	7,195	52.4	....	51.2	.514	26.84	190	192
Dec....	7,145	7,254	52.8	....	51.2	.518	27.31	192	195

*See Introduction, p. 2.

Employment in identical establishments increased 10% between July, 1914 and the end of the year 1921.

Hours

In July, 1914, 55.6 hours constituted the *average nominal week*. During the last half of 1920 the hours averaged 52.3, while in the first half of 1921 they were 52.5 and during the latter half of 1921, 51.5.

The *average week per wage earner* fell from 52 hours in July, 1914, to 50.9 hours in June, 1920. During the period covered by the investigation there were fluctuations in the average week due chiefly to changes in time worked by the common labor group. There was a general tendency during the last half of 1921 toward longer working hours.

Manufacture and Distribution of Gas

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Conclusion

The study of wages and hours in the gas plants shows that:

1. Average *hourly* earnings of all wage earners on January 1, 1922 stood at \$.518, or 92% above the 1914 level of \$.27.
2. Average *weekly* earnings of all wage earners on January 1, 1922 stood at \$27.31, or 95% above the 1914 level of \$14.01.
3. The decline in both hourly and weekly earnings from the peak up to January, 1922, was far less than that in other manufacturing industries.
4. There was an increase in employment of 9.5% between June 1920 and the beginning of 1922.

Classified Payroll Data—Manufacture and Distribution of Gas

PERIOD	MALE UNSKILLED			MALE SKILLED			Index Numbers Earnings Hourly	Index Numbers Weekly
	One Week In	Number Wage Earners	Average Actual Hours	Average Hourly Earnings	Index Numbers Hourly	Average Weekly Earnings		
				\$10.77	100	100		
1914	2,867	51.7	\$208	\$10.77	100	100	3,628	100
1920	2,580	49.4	.512	25.28	246	235	3,937	191
June...	2,679	49.2	.521	25.68	250	238	3,974	186
July...	2,614	48.9	.528	25.85	253	240	4,053	188
Aug....	2,701	48.1	.536	25.81	258	240	4,083	191
Sept....	2,853	49.9	.536	26.76	258	248	4,251	192
Oct....	2,824	48.4	.541	26.21	260	243	4,338	193
Nov....	2,807	47.9	.535	25.61	257	238	4,333	191
								188
1921	2,722	48.9	.511	24.95	246	232	4,359	188
Jan....	2,569	48.9	.496	24.25	238	225	4,406	185
Feb....	2,579	49.2	.500	24.58	240	228	4,320	181
March...	2,702	48.1	.488	23.49	235	218	4,272	191
April...	2,692	49.5	.480	23.78	231	221	4,085	191
May....	2,613	50.1	.477	23.90	229	222	4,005	180
June....	2,592	51.7	.479	24.74	230	230	4,343	180
July*...	2,575	51.9	.470	24.40	226	227	4,280	177
Aug....	2,649	51.0	.455	23.19	219	215	4,346	176
Sept....	2,852	51.3	.460	23.59	221	219	4,484	174
Oct....	2,696	50.5	.452	22.81	217	212	4,499	173
Nov....	2,800	51.1	.458	23.41	220	217	4,454	178
								179

*See Introduction, p. 2.

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